

# SOAP

## and SANITARY CHEMICALS



### *In this issue...*

Milled bar detergents as  
toilet soap replacement?

★ ★ ★ ★

Properties, application  
of modern floor sealers

★ ★ ★ ★

How, when and where to  
register pesticides today

★ ★ ★ ★

Aerosol wax polishes —  
a study of properties

★ ★ ★ ★

*Cover photo . . . "Sky", new  
liquid dishwashing detergent  
of Stryker Soap Co., affiliate  
of Newell Gutradt Co., San  
Francisco, now appearing on  
retail shelves in California.  
Bottle by Owens-Illinois  
Glass Co.*

**MAY 1951**

# Creative Perfumery

sells your products



Creative Perfumery is the art and science of producing the correct, the perfect fragrance for any given product. More . . . Creative Perfumery is the dynamics of Fragrance applied to modern merchandising for easier selling . . . for more satisfied customers. With original notes, subtle compositions and imaginative harmonies D&O Creative Perfumery can become a compelling and successful factor in your Sales picture. Consult D&O



**DODGE & OLcott, INC.**

180 Varick Street • New York 14, N. Y.

ATLANTA • BOSTON • CHICAGO • CINCINNATI • DALLAS • LOS ANGELES • PHILADELPHIA • ST. LOUIS • SAN FRANCISCO  
ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • VANILLA • FLAVOR BASES

# PLUSTRE WAX

Plustre Wax has Lustre PLUS . . . everything a good wax must have. You get a gleaming, durable finish with Plustre, a slip-retardant surface and Plustre is built to withstand wet traffic abrasion.

When wet weather comes, many waxes go! Plustre is a wax which will remain shining and firm despite wet feet walking across its surface.

Plustre is built that way . . . built to last and last in all kinds of weather and is outstanding for wet traffic abrasion wear.

. . . and Plustre is a low price wax! Sold only through recognized jobbers. Write today for prices and literature.

*Everything a wax  
should be....*

*Liquid  
and  
Self-Polishing*

DESIGNED FOR

## WET WEATHER

# WEAR



**FULD BROTHERS,**

MANUFACTURING CHEMISTS  
Warehouses in Principal Cities



**INCORPORATED**

702-710 S. WOLFE ST., BALTIMORE 31, MD.  
West Coast Plant: Los Angeles, Calif.



## Sight + Scent = Sales

Pure whiteness invites the shopper to reach for a bar of soap on display. Pleasing fragrance urges her to buy. Thus sight plus scent equals sales in thousands of stores every day. That's why Coumarin Monsanto can help your business.

Coumarin Monsanto, used with accepted antioxidants, does not discolor white soaps when employed as a fixative for perfume oils. White soaps stay white, even when exposed for long periods. And perfumes hold their alluring fragrance.

Up to 1915, tonka beans and deer-tongue were the accepted natural sources of coumarin. Then, Monsanto laboratories captured the active ingredients of coumarin and since have produced the product under strict chemical control.

Coumarin Monsanto is a superior product of unexcelled, uniform purity; in fact, it is N. F. It comes in crystals of superlative whiteness and true aroma. It has excellent solubility and is easy and dependable to use.

Your request will bring literature filled with useful information, including helpful solubility tables. Address the nearest Monsanto Sales Office or MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second St., St. Louis 4, Missouri.

☆ ☆ ☆ ☆

**DISTRICT SALES OFFICES:** Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

**MONSANTO AROMA AND FLAVOR CHEMICALS**  
Coumarin Monsanto • Ethavan (Monsanto's Ethyl Vanillin) • Methyl Salicylate, U.S.P. (Monsanto's synthetic oil of wintergreen) • Vanillin Monsanto. *Ethavan: Reg. U. S. Pat. Off.*



**SOAP and SANITARY CHEMICALS**

# SOAP

Volume XXVII  
Number 5  
May 1951

## and SANITARY CHEMICALS

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# HYDREX 460

HYDROGENATED  
ANIMAL  
FATTY ACID

FOR "LOCKED-IN" STABILITY

#### HYDREX 460 SPECIFICATIONS

Titre .....	(134.6 — 140.0°F) 57.0 — 60.0°C
Color 5 1/4" Lovibond	
Column (max) ....	4 Yellow — 0.4 Red
Iodine Value (Wijs).	1 — 4
Free Fatty Acid (as oleic) .....	100 — 103%
Acid Number .....	199 — 205
Saponification Value.	201 — 207

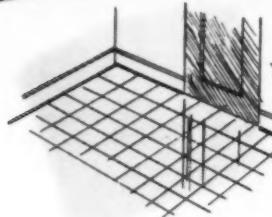
Our hydrogenation process makes it possible in regular production runs to reduce the proportion of unsaturated compounds to a minimum . . . greatly improving the stability of the fatty acid *and the end product.*

For example, Hydrex 460 Hydrogenated Animal Fatty Acid is a water-white, stable, saturated fatty acid that is relatively rich in stearic acid (about 70.0%), with about 30% palmitic acid and practically free of oleic acid. Yes, with our hydrogenation technique we are producing high melting point, low iodine value fatty acids with controlled composition. Manufacturers of fatty acid esters, metallic stearates, special lubricants and other products where *stability* is essential, should investigate medium-priced Hydrex 460 Hydrogenated Animal Fatty Acid.



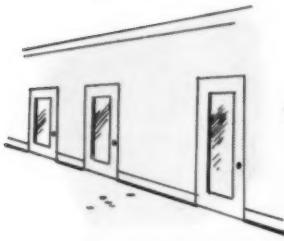
FACTORIES: DOVER, OHIO TORONTO, CAN.

# CLEANS ANY SURFACE BETTER



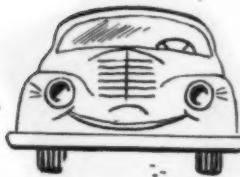
## ★ FIRST FOR FLOORS

SYN-SUDS brings out the true beauty of every type of floor. Recaptures natural colors of terrazzo and marble. Nothing finer for wood, cork or rubber—and on painted or varnished surfaces.



## ★ WONDERFUL FOR WALLS

Walls that have not been cleaned for 25 years yield to SYN-SUDS—without rubbing or scrubbing. Chemical action does it!



## ★ SO MILD!

... and so economical, too. Perfect for washing automobiles and fine lacquered finishes.



## ★ SO SAFE!

SYN-SUDS can't harm any surface that water won't harm. Hurts only dirt.



## ★ NO SOAP

Absence of dirt-catching soap film—and pore-filling salts—keeps surfaces cleaner, brighter—longer. Cuts labor costs.



## ★ HOT OR COLD

SYN-SUDS yields an abundance of suds in any water—hot or cold, hard or soft.

*by Chemical Action!*

# SYN-SUDS

This new concentrated liquid cleaner leaves no film. Cleans faster, safer . . . at far lower cost per square foot.

PRIVATE LABELS

## ALSO CLEANS

Dishes, glassware, windows, laundry, wood furniture, leather, metal files, venetian blinds, airplane and truck bodies. Apply with mop, cloth or spray.

AVAILABLE IN  
ALL SIZE CONTAINERS

**Hysan** PRODUCTS COMPANY

932 West 38th Place, Chicago, Illinois

MAY, 1951



IN YOUR PRODUCT DEVELOPMENT—

# You Need a Good Man on the Other End, Too!

Product development programs are no longer "one-company" jobs. The bigger your program is, the more you have to rely on the other fellow—and the output of *his* research—to make your own succeed.

*Through its continuing development work on both basic and new industrial chemicals, General Chemical can help you "man the saw" in many ways:*

For example, General's research has introduced a number of important new industrial chemicals. Some have proved the basis for customers' development programs or the answer to their development problems. Among these helpful "tools" are:

BORON TRIFLUORIDE AND COMPLEXES, versatile fluorine catalysts for organic reactions; SULFUR HEXAFLUORIDE, remarkable new gaseous dielectric; GENETRONS\*, aliphatic fluorine compounds; and SULFAN\*, stabilized sulfuric anhydride for sulfonations.

For special process requirements, you may find General's ability to produce commercial quantities of "custom-made" chemicals equally valuable to you.

*These are but some of the services our product development program offers. A personal discussion of your problems may suggest other ways it can "team up" with yours. Let's review them.*

\* Reg. U. S. Pat. Off.



## GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION  
40 Rector Street, New York 6, N. Y.

OFFICES IN MAJOR INDUSTRIAL CENTERS FROM COAST TO COAST

SOAP and SANITARY CHEMICALS

Now--shiny, safe floors  
all year 'round with - -

# SUPER SAFE CETOX

Hydراoxygenated carnauba floor wax  
- - It's all-weather-slip-proof!

Come rain or shine, radically new SUPER SAFE CETOX gives genuine security underfoot on dazzling, beautiful floors.

#### Super safe—even in inclement weather

Here's important protection all year long—especially throughout year's 30% inclement weather when the risk of slips and falls is greatest. Snow, sleet and rain tracked onto a waxed floor acts as a lubricant underfoot. SUPER SAFE CETOX ends this hazard. Foot traffic has solid, secure footing on a CETOX dressed floor . . . whether wetted or

dry. You can't slip on SUPER SAFE CETOX, because the slip is chemically hydراoxygenated out of the raw material carnauba. No silicas or abrasives added! It's super safe! Because it's hydراoxygenated!

#### More remarkable features

SUPER SAFE CETOX quickly dries into a smooth expanse of brilliant lustre. Self-lustre CETOX resists soil, wear, spilled water and frequent damp moppings. In every way CETOX is superior! Send for sample and sales data on this nationally advertised profit-maker. Do it now!

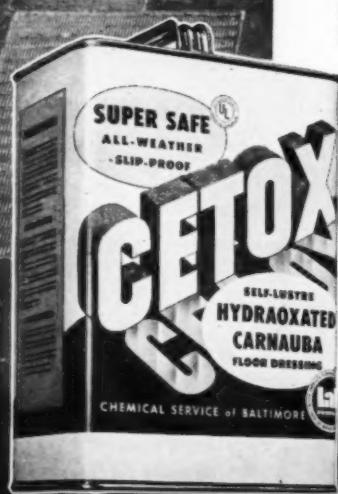


#### SUPER SAFE, RAIN OR SHINE

Listed anti-slip floor treatment material  
by Underwriters' Laboratories, Inc.

## Chemical Service of Baltimore

HOWARD & WEST STS. ★ BALTIMORE 30, MD.



# MONSANTO

CHEMICALS ... PLASTICS



## INFORMATION FOR COMPOUNDERS

These pages are published to bring you information on Monsanto products serving your industry. Here, you may find suggestions and data that will point the way to new or improved products and increased sales. Additional information on any product or application will be sent at your request.

# Santomerse No. 1...versatile product in cleaning and process operations



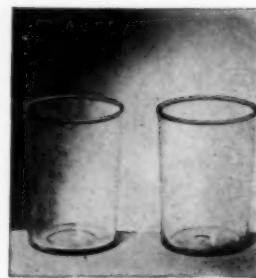
In water, a sample of yarn may float for hours. Add Santomerse No. 1 and it is saturated rapidly ... and sinks.



Santomerse No. 1 produces plenty of creamy suds in either hard or soft, hot or cold water. Try it and see!



Look how Santomerse No. 1 blends with builders. Upper photo: Santomerse alone. Lower photo: Blended. See any difference?



Curds on the glass at the left were formed by soap in hard water. Santomerse No. 1 (right) prevents curds.

There's a good reason why Monsanto Santomerse No. 1 is called the all-purpose detergent and wetting agent. The reason: *versatility*.

Santomerse No. 1 is used effectively for cleaning, penetration, dispersion, emulsification and spreading. With such versatility, all-purpose Santomerse No. 1 is adding to efficiency in numerous operations in industry, agriculture and home-making.

Anionic Santomerse No. 1 has a minimum of 40% active alkyl aryl sulfonate, the remainder being principally sodium sulfate builder. This is the combination found best for high efficiency and economy.

### Properties of Santomerse No. 1

*Chemical nature*—Alkyl aryl sulfonate.

*Available forms*—Flake, granular, beads, powder.

*Color, dry*—Light buff to white.

*Color, 1% solution*—Clear, essentially colorless.

*Odor, dry*—Very slightly aromatic.

*Odor, solution*—None.

*Active content*—40%.

*Ash content*—68%.

*Alcohol insoluble*—60%.

*pH value* (1% solution in distilled water @ 25°C.)—7.5 to 8.5.

*Approximate apparent density*—Light-density flake, 0.36-0.42 gms/cc.; heavy-density flake, 0.48-0.55 gms/cc.; granular, 0.55-0.60 gms/cc.; spray-dried (in drums), 0.09-0.10 gms/cc.; spray-dried (in bags), 0.10-0.15 gms/cc.

Santomerse No. 1 is compatible with other detergents and with builders. It flows freely, hence it makes mechanical mixtures of uniform quality in practically any kind of blending equipment.

Santomerse No. 1 is effective in hard or soft water, in acid or alkaline baths, in hot or cold solutions. In operations where the pH is important, Santomerse No. 1 can be used because it does not affect the pH to any marked degree and any change that does take place can be adjusted easily.

If you use a detergent and wetting agent in your industrial processes, or if you compound cleaners for resale, look into the possibilities Santomerse No. 1 offers. Write for a copy of Monsanto's booklet, "Santomerse No. 1 All-purpose wetting agent and detergent," which gives much useful technical information.

If you want assistance in formulating or help in specific applications of detergents and wetting agents, contact the nearest Monsanto Sales Office.

### Why you'll prefer Santomerse No. 1

#### CONTROLLED DENSITY

Manufactured in three densities ... gives you bulking to suit your products and markets.

#### COMPATIBILITY

Santomerse No. 1 is compatible with other detergents and builders.

#### EASY BLENDING

Available in flakes or granules, giving you a selection to blend readily with other ingredients without stratifying.

#### PROTECTED QUALITY

Santomerse No. 1 is shipped in wax-lined drums to protect quality in transit and storage.

#### PROMPT SERVICE

Santomerse No. 1 ... warehoused in 13 cities, coast to coast ... will be shipped promptly from a point near you.

## A few of many uses of Santomerse No. 1

The uses for Santomerse No. 1 are so numerous that it is next to impossible to name them. Here are a few applications for the all-purpose detergent and wetting agent, which may suggest other uses to you.



**Agricultural Sprays**  
Used as a wetting and dispersing agent, Santomerse No. 1 increases the effectiveness of the spray.



**Dehairing Hogs**  
Santomerse No. 1 in the scalding vat speeds up the removal of hair and scurf.



**Dairy Cleaners**  
Santomerse No. 1 adds to the efficiency of acid, neutral and alkaline dairy cleaners.



**Household Cleaners**  
Santomerse No. 1 formulations make excellent cleaners for home laundering, dishwashing, floor and woodwork cleaning and in numerous other cleaning jobs.



**Railroad Car Cleaners**  
Santomerse No. 1 improves the detergency of acid-type cleaners to remove scale and road grime.



**Metal Industry**  
Santomerse No. 1 in the acid bath for cleaning, treating or pickling metal improves operations and the quality of the work.

### MONSANTO DETERGENTS, PENETRANTS, WETTING AGENTS

#### Anionic

Santomerse\* No. 1  
Santomerse S  
Santomerse 30X  
Santomerse No. 3  
Santomerse No. 3 Paste  
Santomerse D

#### Nonionic

Sterox\* SE  
Sterox SK  
Sterox No. 5  
Sterox No. 6  
Sterox CD  
\*Reg. U. S. Pat. Off.

### Write for literature on Monsanto detergents

Your request to the nearest Monsanto Sales Office or to Monsanto Chemical Company, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri, will bring you any of the following pieces of literature.

**Booklet**—"Santomerse No. 1 All-purpose wetting agent and detergent."

**Technical Bulletin P-123**—Describing Santomerse D, Santomerse S, Santomerse No. 3 and Santomerse No. 3 Paste.

**Technical Bulletin P-129**—Describing the properties and uses of Sterox CD.

**Technical Bulletin P-133**—Describing Sterox SE and Sterox SK.

**Technical Bulletin P-136**—Describing Sterox No. 5 and Sterox No. 6.

**Technical Bulletin P-122**—Describing Detergent MXP.

**Technical Bulletin P-142**—Describing Emulsifiers H, L, M and R.

**Technical Bulletin P-146**—Covering the use of Santomerse S for metal processing in acid media.

## Sterox CD controls sudsing and eliminates dusting



Dust in dry detergent compounds is controlled by the addition of a small amount of Sterox CD.



Sudsing is controlled by Sterox CD, a 100%-active detergent, surface-active agent and emulsifier.

Appearance . . . . . Pale-yellow to light-amber liquid  
Odor . . . . . Mild fatty odor  
Sp. Gr. at 25° C. . . . . 1.060

Viscosity  
Saybolt Furol Seconds:  
at 70° F. . . . . 250  
at 100° F. . . . . 100  
at 210° F. . . . . 20  
Pour Point . . . . . 50° F.  
Flash Point . . . . . 518° F.  
Hygroscopicity . . . . . Slightly hygroscopic

#### SOLUBILITY:

Acetone . . . . .	Miscible
Benzene . . . . .	Miscible
Carbon Tetrachloride . . . . .	Miscible
Ethanol . . . . .	Miscible
Ether (ethyl) . . . . .	Partially Soluble
Gasoline . . . . .	Partially Soluble
Kerosene . . . . .	Partially Soluble
Methanol . . . . .	Partially Soluble
Mineral Spirits . . . . .	Partially Soluble
Xylene . . . . .	Miscible
• • • • •	

MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri. District Sales Offices: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.



# A GUIDE TO WAX PRODUCTS PURCHASING FOR PRIVATE BRAND RESALE



## SELF POLISHING WAXES

Candy's Supreme—Candy's Supreme Special AS

Candy's DeLuxe—Bright Beauty—Candy's Supreme Special WR

Candy's Supreme Special WR-AS—Candy's No. 640

Seven floor waxes that are all-around top quality for any given traffic condition. Each imparts the finest protection and beauty to floors for which they are best suited.

## Bright Beauty FLOOR CLEANER

An outstanding material for removing even the heaviest wax film and dirt. . . . Brings neglected floors "back to normal." The right cleaning agent to insure the most efficient floor maintenance.

## Bright Beauty CREAM FURNITURE POLISH

A cream furniture polish that spreads easily, polishes without excessive effort and imparts a deep impressive lustre. Too, it permits repeated repolishing with a dry cloth saving reapplication time and again; truly a very economical polish of very highest quality.

## Bright Beauty PASTE WAX

A paste wax that is properly blended and refined from excellent quality solids and solvents that produce the best drying time and thorough evaporation. A wax that is easy to handle, having "creamy" consistency and stability throughout its stocking and usage period.

## Bright Beauty LIQUID (spirit) PREPARED WAXES

Complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each its own "Dry Cleaner," they keep a surface waxed with a superb protective coating necessary to many difficult surfaces such as certain floors (where adaptable) bars, wallpaper, etc.

## Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH

As a Glass Cleaner (pink color) it applies evenly with little effort, wipes off easily with negligible "powdering" and produces an undeniable "feel" of cleanliness to glass that is actually true in fact. Different in color only as Silver polish, it imparts a highly desirable lustre to all silver without abrasion and can even correct the abuses of scratchy, "quick-polish" inferior products.

## Bright Beauty DANCE FLOOR WAX

Basic advantages are freedom from "balling up," thus does not gather dirt and impregnate the floor with hard spots difficult to remove . . . also is free from dusty effects. Adds the protective quality to expensive ballroom floors that means more "floor-years" to users everywhere.

## Bright Beauty Heavy Duty PASTE CLEANER

Really *cleans* and *scours* more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive quality, it frees almost every surface from all forms of foreign matter to perfection.

© ALL AVAILABLE FOR PRIVATE BRAND ONLY  
We do not compete with our jobbers for consumer sales.  
We sell only to distributors, except for experimental  
accounts in Chicago essential to research.

An honest appraisal of  
floor wax products as we  
see it is offered to guide wax  
buyers who want the best quality  
money can buy...

### 1. BEAUTY AND DURABILITY

should be considered together. Initial appearance is important, but for a waxed surface to remain beautiful it must be durable. Durability depends not only on resistance to the abrasion of traffic, but even more so on resistance to the collection of dirt and to discoloring traffic marks. Durability is really measured by how long the waxed surface maintains a nice appearance before the necessity of complete removal and re-waxing.

### 2. ANTI SLIP

qualities are necessary in a good wax as a matter of safety underfoot. This important quality does not necessarily require the sacrifice of beauty and protection which are the foremost original reasons for the use of a wax. Look for the proper balance—a wax film which is not excessively slippery yet which is not tacky and does not excessively collect dirt.

### 3. WATER RESISTANCE

is important, particularly when considering the possibility of wet traffic and the necessity for frequent damp mopping for the purpose of removing surface dirt. Overdoing this quality means greater difficulty in applying multiple coats of wax and may seriously increase the difficulty in removal when complete cleaning and re-waxing is necessary. Water resistance is important, but so is the quality of removability.

### 4. SOLID CONTENT

when expressed in percentage is not nearly as important as the quality of the solid content. When considering good quality, 12% of solids answers most needs for good planned maintenance programs. Two applications of 12% will give better results than one of 18%. However the more concentrated material is useful for some programs of maintenance and particularly on "washed-out" floors, etc. Over-waxing should be avoided so that periodic complete removal will not be too difficult.

### 5. CARNAUBA WAX

is still the most important basic ingredient in our floor waxes. When refined and compounded with other important ingredients and "KNOW HOW," it aids materially in producing the most important features of a good floor wax... ALL AROUND QUALITY OF PERFORMANCE.

Wax Specialists for over 60 years  
**Candy & Company, Inc.**  
2515 W. 35th ST., CHICAGO

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# Filtrol

## ...IS YOUR GUARANTEE OF QUALITY

THE BEST ADSORBENTS FOR DECOLORIZING ANIMAL AND VEGETABLE  
FATS, OILS AND WAXES



*Filtrol*  
CORPORATION

GENERAL OFFICES:

727 West Seventh Street  
Los Angeles 17, California

PLANTS:

Vernon, Calif.; Salt Lake City, Utah;  
Jackson, Mississippi

\*T.M. REG. U.S. PAT. OFF.

MAY, 1951

# What Do You Look For in a Stearic Acid?

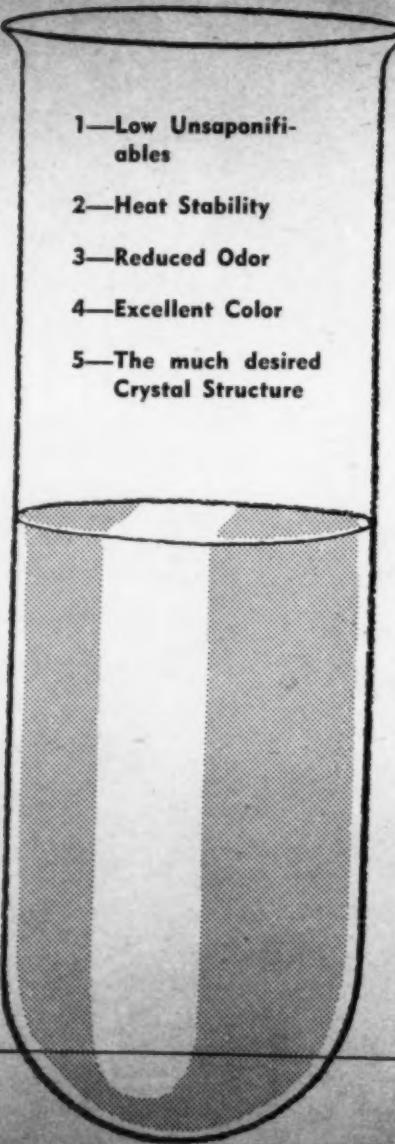
You can have them all in an  
A. Gross Stearic Acid.

Through years of constant research and development, employing the most modern equipment, A. Gross has maintained the natural balance of palmitic and stearic acid found in tallow as indicated by the excellent crystal structure of our Stearic Acid.

In looking for a choice Stearic Acid demanded by the discriminating manufacturer of cosmetics, food emulsifiers, pharmaceuticals, or any other products utilizing stearic acid, the answer is

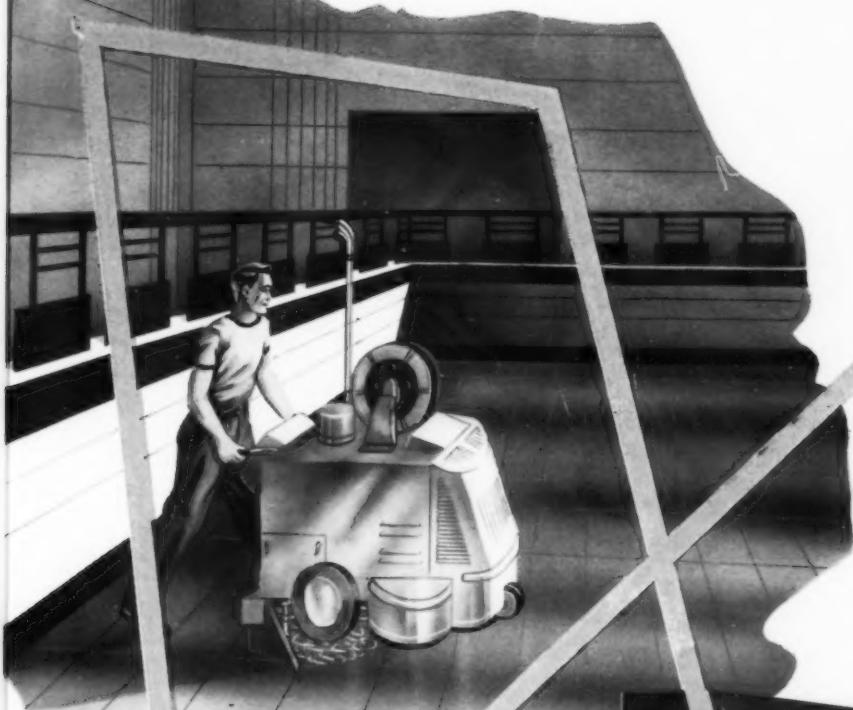
- 1—Low Unsaponifiables
- 2—Heat Stability
- 3—Reduced Odor
- 4—Excellent Color
- 5—The much desired Crystal Structure

*A. Gross & Company*  
295 MADISON AVE., NEW YORK 17, N.Y.  
FACTORY: NEWARK, N.J.



Manufacturers Since 1837

by hand or by machine



for faster cleaning — and  
fewer "slipping" accidents—  
sell mixtures based on

**Nacconol**  
AMERICA'S LEADING SYNTHETIC DETERGENT

Why NACCONOL in your heavy-duty floor cleaning mixtures? Because NACCONOL is the one best value in synthetic detergents — the optimum combination of desirable properties at a low mass-production cost.

NACCONOL dissolves fast and completely — particularly at room temperatures or lower. NACCONOL works well in hard water . . . emulsifies greasy soil effectively . . . has high efficiency at low concentrations . . . keeps fats and soil in suspension . . . rinses freely . . . leaves a clean surface that reduces "skidding"!\*

Available in flake, granular, bead or liquid form. Write, wire or phone our nearest office for quotation on price and delivery.

## NATIONAL ANILINE DIVISION ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y. • BOWling Green 9-2240

Boston 14, Mass., 150 Causeway St.  
Providence 3, R.I., 15 Westminster St.  
Philadelphia 6, Pa., 200-204 S. Front St.  
San Francisco 5, Cal., 517 Howard St.  
Portland 9, Ore., 730 West Burnside St.  
Chicago 54, Ill., The Merchandise Mart  
Charlotte, N.C., 201-203 West First St.

Capital 7-0490  
Dexter 1-3008  
Lombard 3-6382  
SDutter 1-7507  
Beacon 1853  
Slipper 7-3387  
Charlotte 3-0221

Richmond 2-1930  
Columbus, Ga., Columbus Interstate Bldg.  
Greensboro, N.C., Jefferson Standard Bldg.  
Chattanooga 2, Tenn., James Building  
Atlanta 2, Ga., 140 Peachtree St.  
New Orleans 10, La., 714 Carondelet Building  
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Columbus 3-1029  
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You get a head start when you use

# D-40 DETERGENT





**DETERGENTS FROM ORONITE** have been performance-proved in hundreds of thousands of tons of household and industrial cleaning compounds. That's why compounders get a head start in the market when they use D-40—the detergent with a proved record of results.

Why be satisfied with less, when you can get detergents from Oronite—endorsed by leaders in the industry.

**D-40 DETERGENT** is highly versatile, outstanding for general washing use as well as many specialty cleansing applications. Here are three typical examples of the wide use of D-40:

1. You can re-package Oronite D-40 without compounding, or use it as the detergent base of compounds designed for special cleaning jobs—both household and industrial cleaners.
2. Either alone or in compounds, D-40 is effectively used for washing trains, motor coaches, planes and other transportation equipment. Its fast action, quick rinsability and high detergency cut cleaning and maintenance costs.
3. D-40 is used in food processing and packing plants for washing fruits and vegetables. It is also used in canning plants as an aid in peeling fruits.

#### For better compounds

use performance-proved detergents from Oronite—used in greater quantity and in more compounds than any other.

## ORONITE CHEMICAL COMPANY

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16

SOAP and SANITARY CHEMICALS

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- LAUNDRY SOAPS
- WASHING POWDERS
- LIQUID CLEANSERS
- POLISHES, ETC.



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- It's a manufactured article . . . free from the price fluctuations of natural essential oils such as Citronella, Sassafras, etc.
- Its high quality never varies, enabling you to manufacture uniformly dependable products.
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**MIXTURES**

Mixtures formulated to order containing phosphates, alkalis, detergents, etc.

**POTASH SOAPS**

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**FOR EVERY TYPE OF  
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Our Technical Service Division stands ready to render very practical help in the most efficient handling and formulation of Westvaco Alkalies and Phosphates for any type of soap or detergent mixture. We have considerable data on the newer complex Potassium Phosphates which may be valuable to you in developing new products.

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# Need Consistent, Uniform Quality in your Distilled Fatty Acids?



## Use This EMERY "CHECK-CHART" To Find the Emery Fatty Acid to Fit your needs

Product	TITER °C	IODINE VALUE WIJS	ACID VALUE (mg. KOH)	SAPONI- FICATION VALUE (mg. KOH)	MAX. COLOR LOVIBOND (Yellow/Red)	TYPICAL GARDNER COLOR	TYPICAL FAC COLOR
Emery 531 Distilled Animal Fatty Acid	40.5-42.5	53-58	197-203	198-207	35/10 5 1/4" cell	6	3+
Emery 600 Distilled Cottonseed Fatty Acid	34-38	90-110	197-203	199-205	20/3.0 1" cell	8	5+
Emery 610 Distilled Soya Fatty Acid	25-30	115-135	195-201	197-203	10/2.0 1" cell	7	3+
Emery 621 Distilled Coconut Fatty Acid	22-26	8-18	255-266	257-268	30/6.0 5 1/4" cell	5	3-
Emery 622 Double-Distilled Coconut Fatty Acid	22-26	8-15	258-270	260-272	10/2.5 5 1/4" cell	4	1

### Don't take chances... specify Emery Distilled Fatty Acids and be sure of the same high quality every time

When you specify Emery Fatty Acids for your products, you safeguard quality and ensure customer satisfaction. Whenever or in whatever quantity . . . you get the same unvarying, uniformly high quality.

For example Emery Double Distilled Coconut Fatty Acid (Emery 622) is one of the finest coconut fatty acids available anywhere. This as well as the other Emery Distilled Acids . . . Animal, Soya, and Cotton-

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## ULTRAPOLE S

(FORMERLY ULTRAPONE S)

Ultrapole S is a 97%-100% active amine condensate with excellent wetting and foaming properties. It is compatible with soap and synthetic detergents, and has good detergent properties on cotton, wool and rayon. The pH of a 1% solution is 9.2 at 25° C. Solutions of Ultrapole S have considerable body, and reach a maximum viscosity at 8%-10%.

## ULTRAPOLE G

(COMPATIBLE WITH ALKALIES)

Ultrapole G is a variant of Ultrapole S, which has been designed so that alkali, such as soda ash and phosphates, can be incorporated in solutions. These additives materially increase the detergency of any condensate.

Possibly Ultrapole G or S can help solve your detergent problems. Write or phone for specifications and quotations.

headquarters for the following  
**OUTSTANDING ALKYL ARYL SULFONATES**

SULFRAMIN® AB-40 FLAKES

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**ULTRA CHEMICAL WORKS, INC.**

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Be sure  
you pick  
the right  
one...



## If you manufacture toilet or shaving soaps, Woburn Cocoanut Fatty Acid is the right one for you

Woburn Cocoanut "S" Fatty Acid is a superior double distilled cocoanut type fatty acid. This material is exceptionally stable and highly uniform, having been prepared by carefully controlled processing procedures.

### COCOANUT "S"

	Maximum	Minimum
Acid Number.....	270.....	260
Iodine Value.....	274.....	263
Titre °C.....	25.....	21
Color (Lovibond 5 1/4").....	1.5R	

### Six advantages to using Fatty Acids

#### 1. Simplicity

The manufacture of soaps from Fatty Acids is not a difficult or complicated procedure.

#### 2. Better Color

Soaps of an excellent color are produced from Fatty Acids because foreign matter and dirt particles, present in the original raw oils, have been eliminated.

#### 3. Time Saving

The time of saponification is greatly re-

duced, since the glycerine is already removed, eliminating the need for a long "salting out" operation.

#### 4. No Shrinkage

The entire fat component goes into the soap with Distilled Fatty Acids, while with oil, at least 5% is lost in glycerine.

#### 5. Economy

Lower labor and equipment costs result, as well as a saving in steam, because

the same volume of soap is produced in less time (or a much larger volume in the same time.)

#### 6. Better Control of the Finished Soap

Fatty Acids allow for complete saponification with an excess of only about 0.12% alkali. Woburn's rigid control system assures the soap maker of a more uniform product as the starting point for manufacture.

*It's always to your advantage  
to use Woburn Fatty Acids*

**WOBURN CHEMICAL CORP. (N.J.)**



There's a Woburn fatty acid  
for every soap need!

### MAIL THIS COUPON TODAY

Woburn Chemical Corp. (N. J.)

1200 Harrison Avenue, Harrison, N. J.  
Please send me, without charge, the Woburn Bulletin on Cocoanut "S" Fatty Acid.

Name. \_\_\_\_\_

Title. \_\_\_\_\_

Firm Name. \_\_\_\_\_

Address. \_\_\_\_\_

City. \_\_\_\_\_ Zone. \_\_\_\_\_ State. \_\_\_\_\_



## Free-Flowing

### POWDERED LANOLIN SOAP

Powdered anhydrous free-flowing lanolin soap is new.

LANOMAL® (1 & 2) means easier, less costly "lanolizing" of powdered and cake soap.

LANOMAL is added by direct mixing, simplifying production blending.

LANOMAL (1 & 2) safeguards against defatting, is a protective for those allergic to ordinary laundry and hand soaps.

Now is the time for adding sales with a fresh new campaign based on the LANOMAL development. Get aboard the driving force of proven lanolin appeal.

Call or write—we'll be happy to send you working samples.

*Prompt delivery in commercial quantities.*

\*NIMCO POWDERED LANOLIN SOAP

Unretouched photograph of free-flowing powdered LANOMAL

### N. I. MALMSTROM & CO.

America's Largest Processor of Wool Fat and Lanolin

147 Lombardy St., Brooklyn 22, N. Y.

612 N. Michigan Ave., Chicago 11, Ill.

#### TYPICAL ANALYSIS (WHEN PACKED)

##### LANOMAL SOAP #1 (POWDERED)

Lanomal Soap #1 is a prepared free flowing powdered product manufactured by blending 25% of Bentonite with 75% of "Lanolin Soap", with the following typical analysis:

Moisture	2.5%
Unsap. (Lanolin Alcohols)	34.0%
Sodium Soap	63.5%
Combined Sodium Oxide	7.8%
Saponified Lanolin Fatty Acids	55.7%
Free Alkali	None
Ph. of 5% aqueous solution	9.5-10.0

Packing: 300# bbls. or fibre containers.

##### LANOMAL SOAP #2 (POWDERED)

Moisture	1%
Unsaponifiables (Lanolin Alcohols)	5%
Sodium Soap	94%
Combined Sodium Oxide	11%
Saponified Lanolin Fatty Acids	83%
Free Alkali	None
Ph. of 5% aqueous solution	9.5-10.0

# NINOL

Wetting Agents, Detergents, Emulsifying Agents, Fine Chemicals

You can cut

## HIGH SOAP COSTS

with



**1281**

*a nonionic detergent especially developed for LIQUID SCRUB SOAPS*

A small quantity of NINOL 1281 can replace a large amount of soap in your present scrub formulation . . . giving you a liquid "SYNSOAP" \* with high clarity and viscosity, and film-free cleaning action . . . \* (SYNSOAP = SOAP + SYNTHETIC)



**1281**

- • • • Boosts soap foam • • • •
- • • • Raises viscosity of liquid soaps, even at low concentrations • • • •
- • • • Prevents rusting of steel drums • • • •

NINOL Technical Bulletin S100 tells how you can increase quality, decrease costs with NINOL 1281. Write for a copy — and for samples — today.

Also

NINOL  
2012A

A nonionic detergent with powerful thickening action for solutions of other synthetics.

NINOL  
1283

For soap-synthetic pine jelly cleaners or soluble pine oil liquid cleaners.

NINOL  
201

An oil-soluble emulsifier for diphasic solvent-emulsion metal degreasers.

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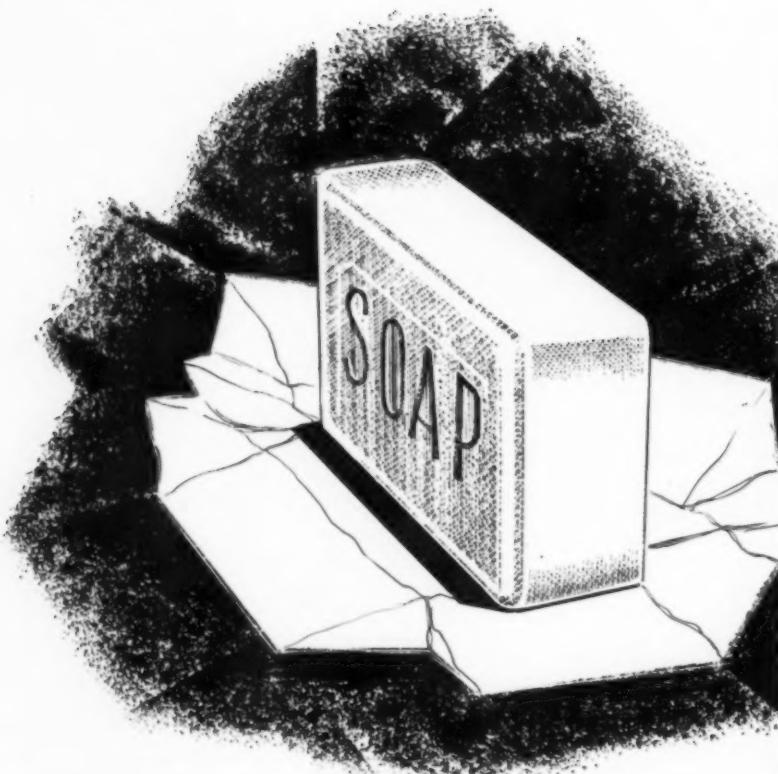
A base for bubble-blowing liquids.

and others

# NINOL

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## Soap wrapper that can't mold

The casein-coated soap wrapper that is protected by Monsanto Santobrite *can't mold* in any climate. This protection, built-in by the paper maker, is inexpensive.

The addition of Santobrite (sodium pentachlorophenate, technical) during paper manufacturing gives *complete protection* against surface microbiological growth. As little as 2.0% of Santobrite, based on the dry weight of casein, gives the desired result. Santobrite may also

be added to adhesives. Mold organisms flourish in them, too.

If you have the problem of moldy wrappers slowing down your soap sales, write for complete details on the use of Santobrite. See how easy it is to eliminate the difficulty. Address the nearest Monsanto Sales Office or MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.

### MONSANTO CHEMICALS

**to control weeds, insects and other pests**

### INSECTICIDES

Nifos\* T (Tetraethyl-Pyrophosphate, Technical)  
ortho-Dichlorobenzene (Commercial Grade)  
Niran\* (Parathion)  
Santobane\* (DDT)  
Santochlor\* (Paradichlorobenzene)

### FUNGICIDES

Copper 8\* Quinolinolate  
Santobrite\* (Sodium Pentachlorophenate, Technical)  
Santophen\* 1 (ortho-Benzyl-parachlorophenol, Technical)  
Santophen 20 (Pentachlorophenol, Technical)  
Biolite\*

### HERBICIDES

2,4-Dichlorophenoxyacetic Acid  
2,4-Dichlorophenoxyacetic Acid (Isopropyl Ester)  
2,4,5-Trichlorophenoxyacetic Acid  
2,4,5-Trichlorophenoxyacetic Acid (Isopropyl Ester)  
Santobrite (Sodium Pentachlorophenate, Technical)  
Santophen 20 (Pentachlorophenol, Technical)  
Sodium Trichloroacetate

### ODORANTS

Methyl Salicylate, U.S.P. (Synthetic)  
Santomask\*

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

\*Reg. U. S. Pat. Off.



SOAP and SANITARY CHEMICALS

for HIGH PURITY  
*Specify*  
**SOLVAY**  
TRADE-MARK REG. U. S. PAT. OFF.  
**CAUSTIC**  
**POTASH**

- ★ 49-50% Liquid in Tank Cars
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LOW IN IRON and Other Impurities

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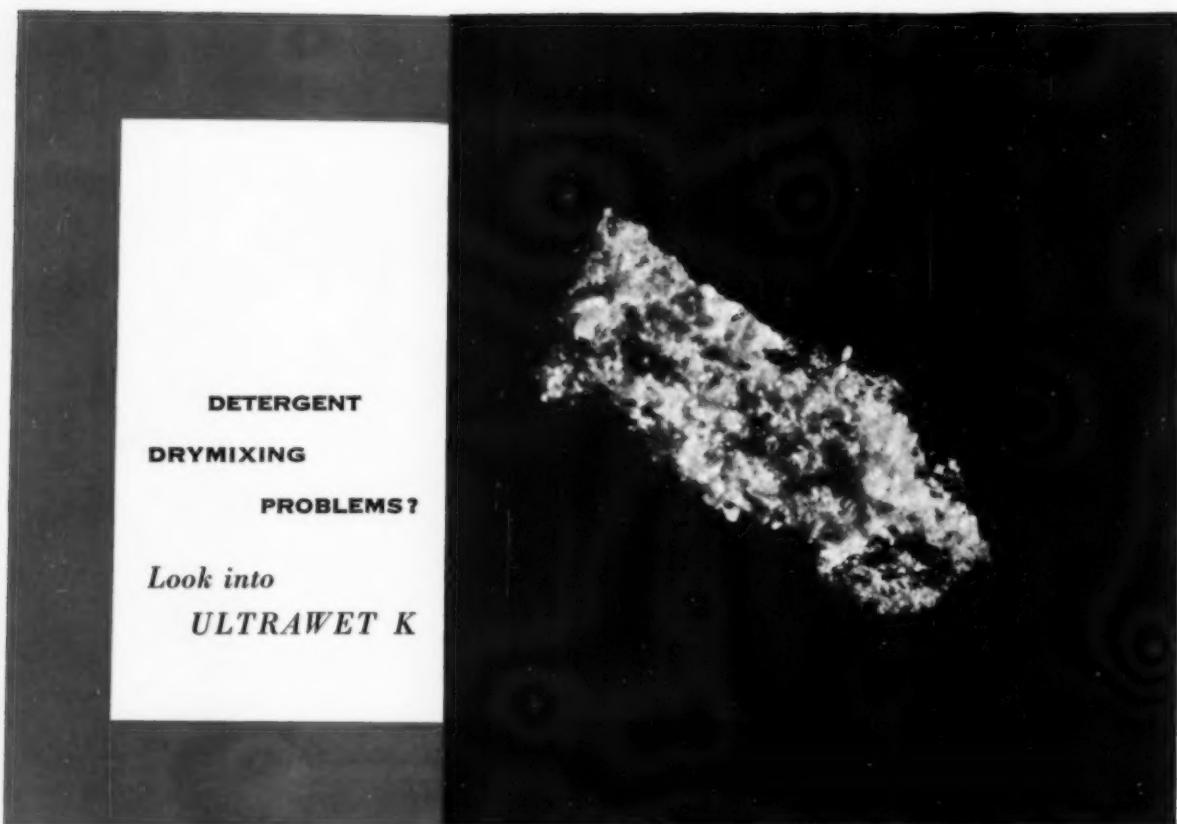
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Soda Ash • Ammonium Bicarbonate • Para-dichlorobenzene • Ortho-dichlorobenzene • Monochlorobenzene • Methanol • Ammonium Chloride • Formaldehyde

Magnification of an ULTRAWET K flake.



DETERGENT  
DRYMIXING  
PROBLEMS?

*Look into*  
**ULTRAWET K**

Want to get more flexibility and lower costs in your cleaning formulations? Then we have a hunch you will be interested in 85% active ULTRAWET K.

This alkyl aryl sulfonate has only 15% sodium sulfate which allows you freedom to select your own combination of builders and extenders. Costs can be pared too because ULTRAWET K's 85% active flake means a real saving when compared to less active flakes. Another plus for this concentrated synthetic detergent — it can be stored in a smaller space.

We'll be glad to send you a bulletin showing the effects of mixing equipment — and the effects of builders — on the densities of the final product. Write The Atlantic Refining Company, Chemical Products Section, Dept. D-1, 260 S. Broad Street, Philadelphia 1, Pa.

Without obligation, please send me further information on ULTRAWET K.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_



IN THE EAST AND MIDWEST  
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**L. H. BUTCHER COMPANY**  
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... FROM A CHEMIST'S "GARDEN"



Chemical Research works many miracles in simulating

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SOLE AGENT IN THE U.S.A. FOR J. & E. SOZIO, GRASSE, FRANCE

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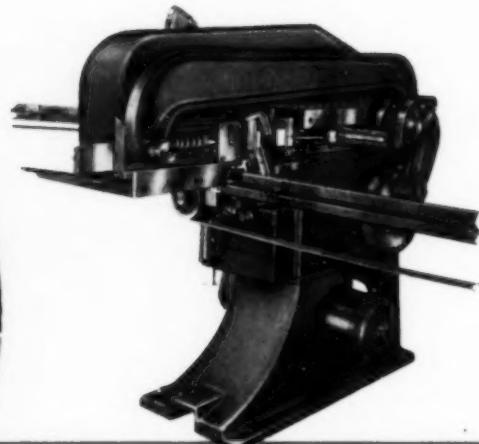
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AROMATICS **VERONA** DIVISION

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**SOAP** is well pressed all over the globe, by JONES Soap Presses. We are proud to list some users who have endorsed JONES Presses by REPEAT ORDERS—many are using dozens of them.



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*Cartoning Machines - Soap Presses*

P. O. BOX 485  
CINCINNATI, OHIO

## AS THE EDITOR SEES IT

**S**ALE of packaged soap products has grown fifty per cent over the past ten years and is still on the rise. Where sixty million cases of packaged soaps of two-dozen per case were sold in the United States in 1940, this had risen to ninety million cases in 1950. These are figures given by R. E. Anthony, general field sales manager of Lever before a divisional sales meeting of his company in Atlanta last month. By soap products, it is assumed that Mr. Anthony referred to all washing products, including synthetic detergents and soap flakes and powders, inasmuch as he included a remark that heavy-duty detergents had had an amazing growth which is likely to continue.

Nobody could have been around the soap industry during the past decade or two without noting the revolutionary changes taking place. Probably the greatest single factor in the steady rise of packaged soaps, meaning of course granular and powdered products, has been the expansion in spray tower and continuous saponification processes, followed by the advent of the heavy-duty synthetic detergents. Thus far, we do not believe that the wider advent of mechanical home washing of clothes and dishes has been too much of a factor in the decline of bar laundry soaps. The overall superiority and convenience of the powders for general home use, we feel, plus strong advertising and manufacturing advantages, have been chiefly responsible for their success.

If anybody believes that this revolution in the soap industry is complete, we do not agree. The sensational success of "Tide" presages further developments in the "soap" market. Liquid detergents too are coming to the fore. Although the straight soaps and soap powders may be trampled somewhat in the years ahead, we do not believe that their demise is imminent by a long shot. At the same time, we do look to see a growing proportion of fats find their way to market as fatty alcohol derivatives instead of

soaps. No, the soap revolution is not over. In fact, it is a long way from being over.



**T**HAT undercurrent of easiness which seems to be noted here and there among certain chemicals and other raw materials may be just a touch of nervousness among some sellers, and then again it could be that we are well overproduced and overstocked on a lot of things. This "war economy" which has had us buying almost everything like mad for six or eight months may not be what its name implies after all. Possibly, every storehouse and coal-bin are now loaded to the top and there is no more room to put stuff unless somebody somewhere uses it up faster.

Even in the case of that hard-to-get commodity, glycerine, we have heard reports which could indicate that a soft spot or two may have developed. A refiner of glycerine actually is reported just recently to have called up a large buyer and solicited an order! That this buyer who had lived in fear and trembling that he might be shut off from a sufficient glycerine supply any day, was slightly amazed is indeed the understatement of the month.

Confirming the belief that inventories are beginning to mount on a wide range of items, an Office of Price Stabilization official recently stated that current inventories are 2.5 percent above the previous all-time high. As a matter of fact, the official seemed to think that the plentiful supply of finished goods in inventory constituted a serious market threat. With manufacturers, retailers and wholesalers holding heavy stocks of merchandise and with consumer buying interest at low ebb, production cut-backs may take some pressure off demand for scarce raw materials.

Please do not interpret this as a prediction that we look for markets to fall apart any day

now, or for prices to jump off the cliff. However, we do feel that there is a lot more stuff kicking around today looking for a market than there was a month or two months ago. Maybe when July 1 comes, it may be different. But, right now, the mad rush of the purchasing stream seems to have abated. We should say that raw material prices are more apt to go down than up.



**O**VER the past sixty days, sales of soaps and detergents as a class have dropped off an estimated forty per cent. Whereas some four months ago, manufacturers could promise only forward deliveries, today buyers can get all the soaps and detergents their hearts desire,—and fast. Heavy production is being cut back in many plants to ease the pressure on overstocked warehouses. Chains and other large buyers have reduced or cancelled orders to level out their own stocks.

The decline in the demand for soaps has not been sudden, but has been gradually working back from the retail consumer who panically loaded up last fall. Actually, the housewife has not been buying soaps for three months. Her memories of World War II hoarding days and attendant fears seem to have vanished. She sees plenty of soap in the stores. So why hoard? And price ceilings seem to be operating in reverse, tending to hold prices up rather than hold them down.

Based on costs of soaps and detergents now in the channels of trade all the way down to the retail grocer, price cuts today are not warranted even in the face of sharply reduced demand. But, we believe, this may not deter some soapers from cutting prices anyway. Nevertheless, a more likely procedure in most cases will be widespread resumption of contests and coupons to move the stuff off the dealers' shelves. That failing to produce the desired results, price cuts could follow. But, and we beg leave to inform those manufacturers who may be toying with the idea of coming in with a fast price cut, the pursuit of such a policy now could well bring undesirable complications at a later date, particularly if and when the present situation might reverse itself.

**O**FTEN, it's the little things which bring the most trouble down about our ears.

The wrath of the Canadian Association of Consumers recently descended upon the soap manufacturers of Canada. The occasion was the distribution of free soap coupons by mail to housewives shortly after soap prices had been subjected to a general advance. The consumer outfit gave the soapers a dressing down in its monthly bulletin and urged housewives to show their disapproval by ignoring the coupons.

Distribution of coupons by soapers in Canada or anywhere else for that matter is nothing new or particularly exciting. The practice has been used for years and caused little protest, except perhaps an occasional squawk from harassed retail grocers here and there. But, in this instance, the small matter of timing was apparently overlooked. Prices were boosted and the free offer followed. The combination of events was undoubtedly at fault. Had either been undertaken alone, the chances are that nothing would have happened. But, together they raised an obvious question. If it is necessary to raise prices, how can manufacturers afford to give away soap at the same time?

Just a little detail of poor timing, and there is hell to pay. And how easily and innocently this can happen. And what a mountain any molehill can become when the professional "consumers" want to make it appear as such.



**I**N TIMES when business is slack there may be some justification for a manufacturer bidding on government orders at prices near production costs just to keep his plant operating. But when business is good and raw materials high priced, the faulty economic thinking underlying such practices is unmistakable. Soap and other chemical specialty manufacturers, submitting fantastically low bids on government business, are hard put to explain to jobbers and distributors the large discrepancy between such quotations and prices normally charged on goods offered through jobbers. Under today's conditions of high costs and raw material uncertainty, bids on government orders at unrealistically low prices are more difficult than ever to justify.

# Toilet Bar Form Synthetics

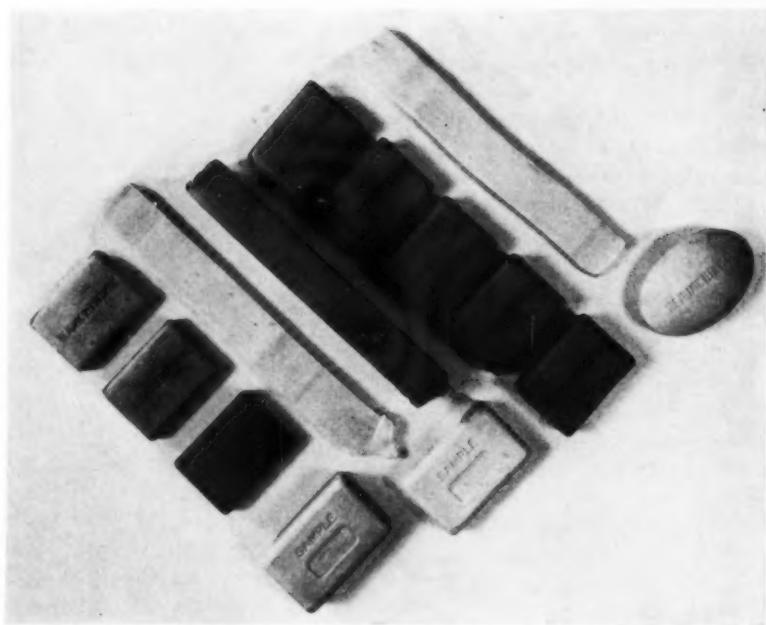
**I**N the form of toilet bars, synthetic detergents theoretically might offer the same advantages over soap that they do in other packaged forms. The ability of synthetics to deterge and foam in both soft and hard water with little or no deposit of lime salts permits the merchandizing of a single product over broad marketing areas. Another inherent advantage is the chemical neutrality of the synthetics as opposed to the alkalinity of soap itself. This is often submerged by compounding with alkaline builders but in the case of a toilet bar it might well be resurrected in view of the more severe dermatological problems encountered.

A disadvantage of fluctuating character exists, of course, in the price relationship between soaps and synthetics. Temporarily at least this price differential is not too serious but it must be borne in mind when aiming at a product which is to be continuously salable.

Economy, then, exercises an immediate constraint upon the choice of synthetic detergents and brings us to the anionic group within which the alkylaryl sulfonates are of immediate interest.

Generalizations of the above type have inspired the art in occasional attempts to formulate all-synthetic bars<sup>1</sup>, but the obstacles encountered have been formidable, with the result that compromise mixtures of soap and synthetic have been most frequently exploited<sup>2</sup>.

Most of these difficulties reside in the attempts to adapt alkylaryl sulfonate formulations to the processing limits inherent in machinery designed exclusively for soap. Unlike soap, the sodium salts of the alkylaryl sulfonic acids do not have a fairly low melting or softening point. In fact, they do



Ultrawet detergent bars (untrimmed) and extruded bar stock

By V. J. Keenan\*

Atlantic Refining Company

not appear to melt at all, save at temperatures high enough to encourage serious decomposition. While the alkylaryl sulfonates do soften somewhat under heat and pressure, their plasticity is of a much lower order than that of soap. Consequently, on mill rolls or in a plodder it is virtually impossible to effect coalescence of alkylaryl sulfonate beads or flakes into a homogeneous sheet or rod. Nor does continued "working" effect any significant "breakdown" of the alkylaryl sulfonates to a more plastic stage despite the application of relatively enormous amounts of power. This power requirement is reflected in the pressures required to mold alkylaryl sulfonates into a bar. We have found

that by employing from 20,000-30,000 psi it is possible to produce a cake of fairly acceptable appearance, but of so great a density as to preclude all thought of sale in conventional shapes and packaging.

Obviously then, some sort of a

heat-responsive softening agent or plasticizer is required.

In further contrast to soap, the alkylaryl sulfonates possess little binding power for water, whether by crystallization, hydration or other mechanisms. We have found that alkylaryl sulfonates by themselves ordinarily will not tolerate much more than about 5% moisture without developing superficial cohesion, and often the limit is even lower. On the other hand, it is widely recognized that soap containing as much as 25-30% moisture can be chilled to a manageable solid form, and finished soap bars containing 6-12% moisture are in common use.

Since this limited moisture binding capacity presages acute difficulties in the use of alkylaryl sulfonates alone, i. e., without hydrate-forming additives, in framed bar formulae, for the present we have focussed our attention on milled bars.

Another problem, minor in the

\* Paper presented before 37th mid-year meeting C.S.M.A., Chicago, May 1.

<sup>1</sup> J. McCutcheon—*Soap & San. Chem.* 25 #12 p. 33-35 (Dec.) (1949).

<sup>2</sup> M. Lesser, *Soap & Sanitary Chemicals* 26 #6, p. 42-45 (June) (1950).

ordinary usage of soap but very evident with alkylaryl sulfonates is the sticky residual sensation encountered on the skin and designated for lack of a better name, as "tack". The difficulty here is that no one is certain of the cause of this cohesive sensation. Out of the speculation and controversy surrounding this point, at least two plausible theories have emerged. One asserts that the sensation is induced by the superior emulsifying power of the synthetic detergents which removes most of the fats and oils from the skin.

In this respect we may disregard the argument as to the relative emulsifying capacities of soap and synthetics under idealized conditions and still have to confront the polymeric proteinaceous nature of the skin itself. Normal plastics experience indicates that the removal of softening oils, plasticizers, lubricants, etc. leaves the polymer in a harder or even embrittled state. The latter condition may be at least approximated by treatment of the skin with alkali of sufficient strength to saponify and/or emulsify the fats present. The resultant dry, harsh "chapped" condition is familiar to us all and the absence of "tack" is equally apparent.

The second theory<sup>3</sup> suggests that these skin sensations are induced by the pH of the detergent solution. We have been unable to demonstrate any effect on tack induced by "Ultrawets" at varying pH values. Acidic solutions impart a tingling astringent sensation and alkalies produce the familiar harshness.

We believe that there are two distinct skin effects. The first is tack and the second is a drying or harshness. By using suitable alkylaryl sulfonate formulations we have been able to nullify the tack and then increase or decrease the harshness at will simply by varying the alkylaryl sulfonate concentration. Hence, it would seem that the harshness or chapped condition may be a function of emulsifying power or of emulsifier concentration. The tack, however, we believe is a distinct, although possibly interrelated,

**An all-synthetic detergent milled toilet bar that contains 50 percent alkylaryl sulfonate, with soya lecithin as a detackifier, corn starch for hardening, talc for "slush resistance" described.**

phenomenon and may somehow depend upon the difference in acidic strength of the anion derived from soap and that derived from the stronger alkylaryl sulfonic acid. A secondary effect, consisting of a "drag" on the skin, is sometimes noted during use of detergent bars and is attributed to a higher coefficient of friction than that of the more "slippery" soap.

To counteract this problem, a detackifying agent is necessary, preferably one with some skin lubricating qualities. The harshness may be controlled by adjustment of the alkylaryl sulfonate concentration in the bar.

A final problem centers around the slush-resistance, i. e., the rate and completeness with which a bar will dry out after use. The low moisture retention of the alkylaryl sulfonates, which may be considered a disadvantage, has already been mentioned. Whereas soap is able to "absorb" an appreciable amount of superficial water and reject the remainder because of its low inherent solubility, the wet alkylaryl sulfonates must dry mainly by evaporation. The difficulty is intensified by the much greater solubility of the alkylaryl sulfonates which tends to solubilize the under-surface of the bar in contact with the draining water as in a soap dish, and thus distort the shape and appearance of the bar. Where brilliant dyes such as blues or greens are used, this solubilizing effect is particularly serious since against the white background of a wash bowl or bath-tub such cakes appear to "run all over" as one of the critics of our initial efforts so pungently described it.

Along with the greater solubility of the alkylaryl sulfonates goes a concomitant hygroscopicity which tends to make the resultant bars sensitive to humidity. A "rainy-day" sur-

face tack was often apparent in some of our earliest bars.

To counteract the greater slushing tendency of the alkylaryl sulfonates, some means for improving drainage must be adopted or else, less hopefully, a material which will retard solubility of the detergents without impairing the rate or volume of foam development in use.

#### **Formulations**

**A**LL of the formulation studies reported below were based on the "Ultrawet" group of alkylaryl sulfonates. Possibly, differences may arise from the use of other alkylaryl sulfonates.

The first step was to attempt to fluidize the "Ultrawet" so that it could be processed in soap machinery. Our initial efforts centered around the use of compounds of fairly low melting point and of these we found waxes to be a particularly useful class. From 20 to 40 parts of wax can be dry blended with 100 parts of "Ultrawet K" (solid) to yield compositions which can be plodded and extruded through screens having pore-sizes as small as  $\frac{1}{8}$ ". In general, the water-insoluble waxes such as carnauba, petroleum wax, glycol stearates, etc., yield fairly glossy extruded stocks which harden within 2-5 hours. They can be pressed at moderate pressure, e. g., 1000-2000 psi and display fairly good slush resistance as well as little tendency to drag on the skin. Such bars, however, are very deficient in foam development and it is necessary to replace part (about half) of the wax with a water-soluble wax such as "Carbowax-6000," which markedly improves foaming power but also decreases the slush resistance proportionately.

It is worthy of note that as we descend the "Carbowax" series to the lower molecular weight members, e. g.,

<sup>3</sup> Anon. *Soap & Sanitary Chemicals* 25, #7 p. 61-63 (June) (1949).

"Carbowax 1000," the fluidity of the stocks in the plodder becomes excessive. Hence it is necessary to reduce the wax content to the point where the stock is more difficult to homogenize and irregularities in the extruded rod become more frequent.

The ultimate solution to the fluidizing problem developed from our concurrent work on detackifiers. Here it was early discovered that it was necessary to study detackifiers in the dry compounded stocks. Several promising "leads" were first passed over by testing on aqueous blends of "Ultrawet" and the various agents. We have lately discovered the detackifiers effective in the dried stocks are likewise useful in such solutions as shampoos, if used in somewhat greater concentrations.

Of the detackifiers which were discovered by us, we have concentrated initially on lecithin because of the many other beneficial properties it confers upon the compounded stock. These included the above-mentioned fluidity, slippery feel and some slush resistance without excessive impairment of foaming power.\*

#### Lecithin Affects Tack

**H**ISTORICALLY, lecithin has long been used as a "conditioning agent" for shampoos in which it allegedly counteracts undue dryness of the hair. However, the amounts used were of the order of 3-5% whereas we have found that at least 15%, based on the "Ultrawet," must be used to nullify tack. In practice 20-25% or more is ordinarily preferred to secure optimum fluidizing action and insure against any tack development on the occasional abnormally sensitive skin.

Among the lecithins, soya lecithin is preferred when price and availability are considered. Lecithins from linseed, peanut and corn all appear to be effective as well. Commercial soya lecithin contains about 30% soybean oil which can be removed in whole or part by repeated extractions with acetone. Use of this de-oiled lecithin in the "Ultrawet" bar still eliminated tack, but showed the ex-

\* Patents pending on the subject matter in above formulation.

pected loss in fluidizing power. Hence the commercial product was used throughout. An excessive amount (50%) of lecithin is to be avoided since it tends to produce a surface "sweat" of exuded oil on the finished bar or cake.

Mixtures of "Ultrawet K" and soya lecithin are preferably achieved by slurring the two in an equal weight of water and drum-drying. The resultant stocks are moderately stiff in the plodder but by maintaining the heating ring on the die orifice at sufficient temperature to eject stock at ca. 120-140°F. very smooth rapid extrusion is possible. The amount of lecithin for this purpose is quite critical in that 15 parts of lecithin (per 100 "Ultrawet") yield a very stiff stock whereas 25 parts of lecithin yield a stock almost too fluid for use without further compounding. The lecithin also adds a yellow-to-brown color to the stock, which can easily be masked by dyes and pigments. The mild and not unpleasant odor likewise can easily be masked by numerous compounds furnished by leading perfumers.

Although the lecithin eliminated tack and minimized the fluidizing problem, it did little to harden up the extruded stock. Indeed, the above compositions containing 100 "Ultrawet K" and 25 lecithin were quite flexible when molded into cakes about  $\frac{3}{8}$ " thick. The lecithin moreover does little to counteract the harshness induced on the skin by high concentrations of the alkylaryl sulfonate.

If we now add waxes to the "Ultrawet"-lecithin mixtures, e. g., a 50-50 mixture of carnauba (or mineral wax) with "Carbowax 6000," the resultant extruded stock tends to harden up slowly although the final product is still soft to the touch.

A typical formula might be:

#### Formula 1

100 Ultrawet K .....	(64.5%)
15 Soya lecithin .....	(9.7%)
20 Carnauba Wax .....	(12.9%)
20 Carbowax 6000 .....	(12.9%)
100.0%	

Attempts to employ polyvinyl alcohol either alone or in admixture

with "Carbowax" also were unsatisfactory.

Such formulae as the following were studied:

#### Formula 2

100 Ultrawet K .....	(54.0%)
15 Soya lecithin .....	(8.2%)
50 Elvanol 72-51 .....	(27.0%)
20 Carbowax 6000 .....	(10.8%)

Ultimately corn starch was selected as an additive since we were already aware from preliminary experiments that starch markedly improved the "hand" of the detergent stock. The starch also appears to have some depressant action on skin tack; it mitigates the harshness encountered at high concentrations of "Ultrawet," and very definitely improves the slickness or slippery feel of the wet bar. It was subsequently discovered that the thin-boiling type of corn starches were unique in their ability to contribute these properties and also harden up the extruded stock. It was found desirable to increase the lecithin content somewhat to maintain satisfactory fluidity in the plodder.

A typical formula would be:

#### Formula 3

100 Ultrawet K .....	(63.3%)
25 Lecithin .....	(15.8%)
33 Starch .....	(20.9%)

The bar formula now appears to be satisfactory in all respects save slush resistance and here we find that the starch content has a pronounced delaying effect on the dry-out time of the moistened cake.

An exaggerated formula of such a stock is as follows:

#### Formula 4

100 Ultrawet K .....	(37.9%)
46.5 Soya lecithin .....	(17.6%)
117.0 Corn starch .....	(44.5%)

The stiffening action of the starch is noticeable in this formula in which even with the increased lecithin content, 180-190°F. heat in the plodder jacket is necessary to achieve satisfactory fluidity. The bar presses readily at 500 psi and hardens rapidly to attain a smooth and light-colored appearance. Its foam is satisfactory, its hand excellent but its slush resistance is relatively poor.

However, it was felt that the

previously mentioned advantages of the starch made its retention in the formula mandatory despite this drawback. Hence a de-slushing agent is required.

The academic ideal of an agent which would accelerate dry-out without interfering with initial solubility and suds development seemed difficult to achieve in practice. As a result, an alternate expedient was chosen, namely a mechanical as opposed to a chemical de-slushing aid whereby improved drainage of the wet bar could be attained.

It had been observed that the shape of the bar itself, in particular its longitudinal and cross-sectional profiles in the vertical plane markedly affected the dry-out time. For example, a rectilinear bar presenting a completely flat surface at the point of contact with an unribbed soap-dish dried out very slowly (8-12 hours) and slushing and run-out of the bar at the contact surface were quite pronounced. Slush-resistance was improved when the bar was pressed in a mold of cylindrical cross-section, and when an ellipsoid or egg-shaped mold was employed the slush resistance was increased very markedly. These improvements, of course, correspond to decreasing contact areas between the bar and the dish or, more to the point, they represent exposure of increasing areas of the wet cake to unimpeded air-drying.

Consequently it was felt that something akin to this effect might be achieved by arranging to introduce a foraminous or sponge-like network of water-insoluble solid into the bar, the interstices thereof being filled with the water-sensitive "Ultrawet" and starch as well as the lecithin. In drying out, the moistened surface would quickly erode to a level where points of this structure would be exposed and become load-bearing. This would act to lessen contact between the water-sensitive ingredients of the bar and the moist soap-dish, and further solution of the bar ingredients would be decreased.

Practically speaking this involved a homogenous dispersion throughout the bar of materials com-

monly designated as fillers. Of the many materials tried, such as calcium carbonate, carbon black, powdered silica and zinc oxide, the combined requirements of economy and light color appear to dictate the choice of such clay-like materials as china clay and talc.

A typical formula would then be:

*Formula 5*

100	Ultrawet K	.....	(48.5%)
40	Soya lecithin	.....	(19.5%)
33	Starch	.....	(16.0%)
33	Talc	.....	(16.0%)

It will be noted that again the lecithin content has been raised to maintain adequate fluidity in the plodder. The ratio of starch to talc appears to be moderately critical and where variations are desired it is preferable to maintain a ratio in the neighborhood of 50-50 for these two ingredients and vary them as a unit.

A typical formula illustrating concentrations approaching the upper limit of talc and starch is given below:

*Formula 6*

100	Ultrawet K	.....	(33.6%)
46.5	Soya lecithin	.....	(15.7%)
67.0	Starch	.....	(22.6%)
83.5	Talc	.....	(28.1%)

Even with the lecithin content somewhat increased, this stock is stiff in the plodder and requires a 180-190°F. heat in the plodder jacket to maintain adequate fluidity. The resulting bar, pressed at 500 psi is smooth, hard and generates copious suds.

Increasing the talc content tends to weaken the cohesive strength of the final bar, predisposing it to crumble. Moreover, excessive talc increases the density of the bar to an undesirable degree. It dulls the surface gloss and imparts a slightly gritty sensation to the skin during washing, even when the finest grade of talc is employed.

A formula containing an excessive amount of talc is as follows:

*Formula 7*

100	Ultrawet K	.....	(39.0%)
40	Soya lecithin	.....	(15.6%)
33	Corn Starch	.....	(12.9%)
83.5	Talc	.....	(32.5%)

Although this stock was markedly grainy, it could be extruded readily and molded, indicating that the stiffening action of talc is of a much

lower order than that of starch. The resulting cake, although it was pressed readily at 500 psi, was extremely hard, in fact, quite brittle, and tended to fracture into flakes when struck sharply on a hard surface. Even this large amount of talc, however, was readily dispersed in water by the "Ultrawet" so that no "bath-tub ring" was encountered.

Formula #5 above is believed to be a suitable base recipe on which to study the various properties desired in the resultant bar. As indicated above the formula will tolerate relatively large amounts of starch and talc without impairing foam. Where economy is the sole objective, this formula can be suggested. As a final precaution, however, the development of suds on a wash cloth should be tested since foam deficiencies will show up here more quickly than on the average skin, particularly when the "Ultrawet" content is lowered to about 30%. The optimum foaming capacity will be achieved with the larger proportions of "Ultrawet".

It must also be borne in mind that the lecithin does exert some foam depressing action, and additional foaming power can be achieved without increasing the "Ultrawet" concentration by decreasing the proportion of lecithin and thus compromising with skin tack-resistance, and stock fluidity. Conversely, if extremely high extrusion rates are desired, the lecithin content can be increased, although correspondingly greater amounts of starch would probably be required to secure adequate hardening action. Some small increase in "Ultrawet" proportions may prove necessary to maintain foaming power.

We have discovered that somewhat more rapid development of foam can be achieved by replacing part of the "Ultrawet K" in formula #5 with "Ultrawet KX", a more readily soluble, form of alkylaryl sulfonate, as follows:

*Formula 8*

86.0	Ultrawet KX	.....	(41.6%)
14.2	Ultrawet K	.....	(6.9%)
40.0	Lecithin	.....	(19.5%)
33.0	Corn starch	.....	(16.0%)
33.0	Talc	.....	(16.0%)

One of the best compromises  
(Turn to Page 82)



## Auto Cleaning Products

By Milton A. Lesser

Part II

**A**S INDICATED in a previous review (17) in this publication, automobile polishes may be of various types. Recently, in a discussion in which he listed no less than eight different classes of products, Moore (1) stated that oxidation and deterioration of a good automobile finish can be retarded and stopped by the correct use of proper cleaners, polishes and waxes. He stressed that a cleaner or wax should not be put on the entire car at once, but rather a portion at a time. In his opinion, a properly cleaned and waxed surface should remain bright and protected for a period of from two to four months, depending on local conditions

and the quality of the products used.

Obviously, such results are not always obtained, nor are all products designed to give such service. Emulsion polishes, for example, produce a high luster with little effort, but the polish is of short duration. This is quite understandable since the gloss depends on a thin and not too durable oil film. A typical formula (18) for making such a product calls for the use of:

	parts
Light mineral oil	48.0
Sulfonated castor oil (50%)	16.0
Oleic acid	6.6
Monoethanolamine	.5
Water	60.0

Dissolve the oleic acid in the oils and stir in the monoethanolamine.

Stir for about five minutes. If the mixture is not clear, add oleic acid a little at a time until clarity is obtained. Add the oil solution to the water with vigorous stirring to form a creamy, stable emulsion. If desired, however, the clear oil solution can be marketed as such, with directions to mix it with an equal amount of water before use.

Sometimes a fine abrasive is included in such emulsion or oil polishes to attain better cleaning of road haze, chalked pigments and the like. A product of this sort may be made along the lines suggested by James and Vallance (19) in the following formula:

	parts
Abrasive or abrasive mixture	10
Mineral oil, light	10
Kerosene	2
Sulfated fatty alcohol (liquid)	3
Ammonium oleate	3
Methyl cellulose (2% aqueous dispersion)	4
Water	32

Products designated as cleaner-polishes contain sufficient wax to leave a bright and fairly durable film on the auto body surface. Products of this sort are in high demand because they yield satisfactory results without too much effort. Provided as liquids or pastes, the effectiveness of the product will depend, of course, on the amount of wax, notably carnauba wax, actually present in the formula and on the effectiveness with which the wax film is formed on the surface. Thus, while a good luster may be obtained with the following product, (20) a long-lasting polish should not be expected:

	per cent
Mineral oil (60-80 sec.)	6
Petroleum naphtha (95-140°C.)	6
Oleic acid	2
Carnauba wax	1
Amino-methyl-propanol	1
Diatomaceous earth	11
Water	73

The first four ingredients are melted together and the diatomaceous earth is stirred in to make a thick paste. The amino-methyl-propanol and water are mixed together and warmed to about 75° C. and the mixture is added to the warm paste with very vigorous agitation. Excellent results are obtained through the use of a colloid mill for this operation.

Because of a much higher wax content, far more lasting results may be expected from the following cleaner-polish (18) that leaves a bright hard film when lightly polished with a dry cloth:

	parts
Carnauba wax	9.0
Beeswax	8.0
Naphtha	75.0
Triethanolamine	2.7
Stearic acid	7.0
Water	75.0

The nature of the final product, whether liquid or paste, is determined by the type of abrasive used. Thus a paste polish is produced when about 25 parts of a water-absorbing

abrasive, such as bentonite, is used. A liquid polish is obtained when 60 parts of an oil absorbing abrasive, like tripoli, is added.

It is preferable to use a steam- or hot water-jacketed kettle in the manufacture of these automobile polishes. The waxes and stearic acid are melted, and the triethanolamine is added; the mixture being maintained at about 90° C. Add the naphtha slowly and stir until a clear solution is obtained and the temperature is between 90 and 95° C. The method of adding the abrasive will depend on the type being used. When an oil-absorbing abrasive is used, it should be well mixed with the hot naphtha solution of waxes just before the water is added. A water-absorbing abrasive is best stirred into the finished emulsion. In either event, the water is brought to the boiling point, added to the naphtha solution and the whole is stirred vigorously until a good emulsion is obtained. Continue stirring slowly until the product has cooled to room temperature.

In these formulas, the proportion of waxes can be changed as required. If desired, a high-melting hydrocarbon wax can replace all or part of the beeswax, with good results. When the primary use of the product is to be that of a polish rather than that of a cleaning and polishing combination, the abrasives may be omitted.

#### Cleaner-Polishes Popular

IT HAS long been recognized that superior gloss and protection are obtained by the use of two mutually helpful products, namely, a pre-wax cleaner and a wax polish. The first serves to remove adherent road dirt, old polish, deteriorated finish and the like. The second provides the hard, durable wax finish that is the pride of the car owner. It is generally advisable to wash the auto body before applying the pre-wax cleaner since this serves to remove the coarser dirt particles that may scratch the finish. For the same reason, excessively hard or coarse abrasives should be avoided when formulating pre-wax cleaners.

Pre-wax cleaners are made as liquids or pastes. The liquid type is

illustrated by the following formula: (11)

	per cent
Kerosene	6.0
Triethanolamine	0.2
Sodium oleate	3.0
Water-soluble gum	0.2
Tripoli	30.0
Bentonite	1.0
Water	59.6

Paste types may be prepared by reducing the water content to between 30 and 40 per cent. More specific, however, is the preparation suggested by Crowley: (12)

Diglycol stearate	1 lb.
Kerosene	1/4 gal.
Trisodium phosphate	4-1/2 oz.
Water	12 pints
Fuller's earth	12 oz.

After the emulsion is prepared in the usual manner it is allowed to cool overnight, at which time the fuller's earth is thoroughly worked into the batch.

Wax polishes consist essentially of dispersions of wax mixtures in suitable solvents; the proportion of solvent determining whether the product is liquid or a paste. A standard paste type polish, as suggested by Glickman, (4) calls for a combination of:

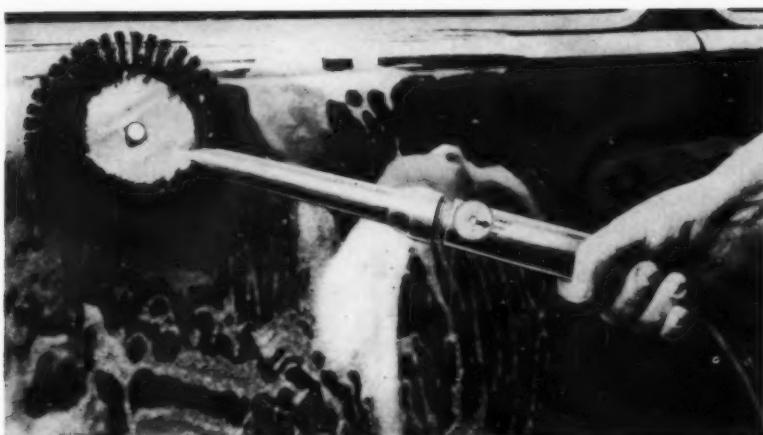
Carnauba wax (yellow)	5-3/4 lb.
Ozokerite	8-1/2 lb.
Paraffin wax (130°F.)	3/4 lb.
Naphtha	2 gal.

More recently, an English worker (21) has suggested the use of the same combination of waxes, but in different proportions, as a base for making good wax paste auto polishes. This base consists of:

Carnauba wax, fatty or chalky grey	40
Ozokerite	20
Paraffin, hard	40

To prepare a polish, 20 to 25 per cent of the base is mixed with white spirit (turpentine substitute) to yield a product that will be easy to apply to give a hard glossy film having good moisture and dust resistance.

A new trend has been considered by Moore (1) who notes that methods have been developed which permit the incorporation of high proportions of the best grade of carnauba wax into paste and liquid waxes without the use of softer waxes as lubri-



New "Whirl-O-Matic" brush fits on garden hose, contains detergent.

cants. One of the newer pure wax liquid polishes, says he, is a solution of carnauba wax plasticized to make it easy to use. A product of this kind permits the application of a continuous film of carnauba wax, which produces a high shine and affords good protection. The product can be applied by hand with a cloth, or may be applied as a spray.

#### Aerosol Wax Sprays

**W**AX sprays are finding a place for themselves among auto polishing materials. For the service station there is the power sprayer and for the individual car owner there is the low pressure aerosol can. To be effective, however, wax sprays must be applied to a thoroughly cleaned surface. When used on a properly cleaned surface, such products not only penetrate into cracks and crevices not reached by ordinary applications but also do a quick, satisfactory job with only thin applications.

It is said (1) that cleaned cars can be wax sprayed with a power sprayer in about five minutes. With an aerosol can, the task requires from ten to fifteen minutes. At normal temperatures, the pressure in an aerosol can is about 35 pounds per square inch. With power sprays, however, slightly higher pressures are used, a range of 35 to 45 pounds per square inch being considered generally satisfactory.

According to Moore, formulations for spray waxes are based on

carnauba wax or mixtures of this wax, synthetic wax and paraffin dissolved in light, volatile mineral solvents. Water and emulsifiers are present in some products, but it has been found that the wax films produced by such emulsions are not as resistant to washing as coatings formed by solvent type products.

Hand sprayers for applying liquid wax polishes are also on the market. One manufacturer supplies a hand spray unit which is screwed directly onto the closure of the can. Prior to using this sprayer for applying the wax, the car is washed and then gone over with a cleaner-polish which is also supplied by this manufacturer. Hand sprayers have been criticized (1), however, on the grounds that this type of equipment delivers a spray that is coarse and "wet", resulting in the application of too much wax.

#### Polishing Cloths

**P**OLISHING cloths, while seldom capable of giving a really durable effect, are quite convenient for a quick polishing job. They are prepared by immersing a suitable fabric in an appropriate solution, pressing to remove excess fluid and allowing the impregnated cloth to dry to the desired moisture content. For example, cloths that are said (12) to be highly effective for quickly and easily removing dust and restoring the luster to automobile finishes, can be made by treating canton flannel with a melted mixture of:

Petrolatum	4.0	parts
Stearic acid (double pressed)	6.0	"
Oleic acid	12.0	"
Methyl salicylate	0.5	"

Examination (11) of other types of auto polishing cloths indicates that they are impregnated with mixed waxes (carnauba and paraffin) and superfatted soda soap.

#### Silicones in Polishes

**A** NEW and apparently very important development in auto polishes is the use of silicones (22,23). As a group, the silicones are proving themselves to be highly versatile substances with many superior characteristics and with a growing list of actual and potential applications. In the case of automobile polishes, silicones are attracting attention because they impart such characteristics as quick application, high resistance to dirt, water-repellency, easy washability and a durable sparkling finish.

Following several years of thorough study and testing, the advantages of silicone car polishes were fully demonstrated on the West Coast, where they successfully resisted desert heat, salt spray, traffic fumes and road scum. With such evidence, it is not surprising that, within a short time, a number of organizations, both large and small, have begun to market silicone car polishes. All stress the double luster that is produced and the simplicity of the "wipe on, wipe off" technique. It is essential, however, that the car be as clean as possible before the silicone polish is used.

Silicone polishes can be formulated with or without wax and with or without abrasives. According to one report (24), a wax-free cleaner and polish can be formulated by combining silicone oil with an abrasive and solvent. The silicone produces a gloss and leaves a protective film, the abrasive acts against chalked finishes, while the solvent helps to clean away the old wax and oil film. About six per cent of carnauba wax is incorporated in similar formulations when a wax-containing cleaner-polish is desired. It is said that the silicone lubricates the carnauba wax, making it easier to

spread. Moreover, the hardness of the wax is not reduced, as is the case with a soft plasticizer, and the silicone bleeds to the surface to provide extra protection.

The omission of abrasive from either of these formulations results in a polish rather than a cleaner-polish. Since the abrasive is absorbent, its absence is also important with respect to the amount of silicone needed. In an abrasive-free polish, two per cent of silicone is sufficient, whereas in cleaner-polishes, four per cent of silicone is generally incorporated(24). However, products containing five per cent of this ingredient are on the market, and this fact is stressed in advertising(25). More recently a silicone spray wax has been made available in a low pressure aerosol can.

In connection with silicone auto polishes, it should be noted that manufacturers are finding that results vary with the types of car finish and the way in which the finish is applied. Differences have been observed not only between various makes of cars, but also between different models of the same make(26).

Several months ago, a new polishing composition called "Spray Glaze" was made available by E. I. duPont de Nemours & Co., Wilmington, Del. Said(27) to embody a principle that is totally different from conventional polishing or waxing, the product is currently the subject of a pending patent. Intended only for car dealers and service stations, "Spray Glaze" can be applied to the whole surface of a car in a short time with a specially designed spray gun. It dries rapidly and the white "indicator" is wiped off leaving a hard, durable film with a high luster. Prior to applying the glaze, the operator washes the car and prepares its surface with a special cleaner.

#### Other Car Care Products

WITH the body and chassis taken care of, it is now possible to consider other products designed to improve the appearance of automobiles. Metal polishes, for example, are needed to clean and brighten fenders, grille work, hub caps, etc. In many

cases, regular metal polishes will serve and products for this purpose have been discussed in detail in a previous review(28). However, because many exposed metal parts are chromium plated it is quite appropriate to consider a polish that is more or less specifically designed for use on such surfaces. One popular formula(29) for this purpose calls for the use of:

Amorphous silica .....	5.0 per cent
Bentonite .....	1.0 " "
Orthodichlorobenzene .....	10.0 " "
Triethanolamine oleate ..	3.0 " "
Oleic acid .....	0.5 " "
Water .....	80.5 " "

It is said (30) that the small amount of free oleic acid in this product will remain as a light film on the metal and help to intensify the cleaning and brightening effect. In this connection it may be mentioned that the application of auto body wax to polished chrome surfaces will help to retard oxidation and retain the luster of the metal.

When it comes to windshield and window cleaners, it can be said that while many of the older type products(31) still command respectable markets, there are a number of newer compositions that rate attention. Of course, liquid products for application as a spray or on a cloth are among the most popular materials for cleaning the car's glass surfaces. In the main, these liquids are uncomplicated preparations that are easy to make by merely mixing the ingredients. For example, one effective product can be made by mixing three per cent of ethylene glycol with water(32). This can be tinted, if desired, with a trace of dye. Simple alcoholic solutions are widely used as glass cleaners. A 15 per cent solution of isopropyl alcohol in water has been described(13) as an "excellent" automotive glass cleaner.

Sometimes several agents are combined to produce a more efficient glass cleaner. Illustrative is the preparation suggested by Alperin(33), as follows:

Isopropyl alcohol .....	90 per cent
Ethyl acetate .....	4 " "
Ammonia (10% solution) ..	5 " "
Synthetic detergent .....	1 " "

Hydrocarbon solvents may also be used to make liquid glass cleaners

and they are particularly effective for removing dirt-holding, greasy films such as are commonly seen on windshields(31). Applied with small atomizers by the station attendant and polished off with a dry rag, a product of this sort may consist of V.M.P. naphtha plus 0.5 per cent of paraffin. Mixed solvents may also be used, as in the following glass cleaner:

Kerosene .....	65 parts
Carbon tetrachloride .....	35 "

Because they doubtless find frequent use for cleaning car windows and windshields, some consideration should be given the so-called "glass wax" type of cleaner. Without going into too many details concerning products which have already received considerable attention in the industrial press, it may be said that these products contain materials long known to glass cleaner formulators. Mild abrasives are present, ammonia is used and a solvent is incorporated; this last requiring the presence of emulsifying agents. Despite the suggestion in the name, wax is seldom present and if it is included it is questionable if the concentration is sufficiently high to be functionally useful. A number of these products are said(34) to contain silicones which remain as a film on the glass. This perhaps protects against fogging and may help to keep grime from becoming fixed on the glass.

In discussing the composition of these "glass waxes", Levitt(35) cites the following formula as a prototype of such a product:

Colloidal magnesium aluminum silicate (Veegum*) .....	2.2 per cent
Water .....	68.8 " "
Diethylene glycol .....	8.9 " "
Polyoxyethylene sorbitan mono stearate (Tween 60**) .....	8.9 " "
Ammonia (27%) .....	2.2 " "
Kerosene, deodorized .....	4.5 " "
Diatomaceous abrasive (Celite Super Floss***) .....	4.5 " "

\*R. T. Vanderbilt Co., New York City

\*\*Atlas Powder Co., Wilmington, Del.

\*\*\*Johns-Manville Corp., New York City

Add the colloidal magnesium aluminum silicate to the water slowly, continually agitating until smooth. Add the other ingredients to the resulting liquid gel in the order given and mix until uniform.

Treated cloths which provide a  
(Turn to Page 131)

Recent developments in

# ESSENTIAL OILS

Part III

By Ernest Guenther, Ph. D.

Fritzsche Brothers, Inc.

**O**RIGANUM oil: This is distilled from the overground parts of *Coridothymus capitatus* Rehb. (fam. *Labiatae*), a herb related to thyme and growing profusely in Andalusia (Spain). Origanum oil contains from 60 to more than 70 per cent of phenols (chiefly carvacrol), whereas thyme oil contains from 50 to 60 per cent of phenols (chiefly thymol). In Spain the oil is produced in field stills located near an ample supply of plant material.<sup>1</sup> The herb grows wild over large areas; it is not cultivated. Before 1936 up to 20 metric tons of oil per year were produced in Spain, but with the outbreak of the Civil War production declined, amounting to only 2.7 metric tons in 1950. As a matter of fact, the Spanish oil appears to have reached almost the vanishing point. Landowners lately have plowed the fields and mountains on which origanum grew profusely. Moreover, as a result of the drought, the plant has developed a disease which prevents its normal growth and markedly reduces the yield of oil. Spanish origanum oil at present is very scarce and prices are high.

For years sizable imports of origanum oil have reached the United States from Syria; in many instances this oil serves as a good substitute for the Spanish oil.

**PALMAROSA OIL:** Is distilled from *Cymbopogon martini* Stapf var. *motia* (fam. *Gramineae*), a grass growing wild in the central provinces of India. Methods of production are

utterly primitive, the oil being produced entirely by natives in field stills. The oil contains a high percentage (up to 95 per cent) of geraniol. Prior to World War II about 30,000 pounds of palmarosa oil were exported from India annually; most of this went to Europe. During the war, production fell off considerably. At present the oil is in a peculiar position. Only very limited quantities are being offered and the majority of recent shipments arriving in the United States are definitely of poor quality, the result probably of negligence in the selection of the plant material used for distillation. In addition to the variety *motia* (which yields the true palmarosa oil), the variety *sofia* also grows in central India, yielding the so-called gingergrass oil. This latter contains much less geraniol than genuine palmarosa oil.

**PATCHOULY OIL:** Is distilled from the dried and cured top leaves of *Pogostemon cablin* Benth. (fam. *Labiatae*), a herb which flourishes in the fertile soil of humid tropical forests.<sup>2</sup> Because of their strong and lasting odor, the leaves have been used in the Orient since early times for the scenting of shawls and other fabrics. The oil is one of the most valuable ingredients in perfumes, cosmetics and high-grade soaps. Possessing a powerful, very lasting, and exotic "heavy" odor, patchouly oil cannot be simulated by combinations of other odors.

<sup>1</sup> Ernest Guenther, "The Essential Oils", Vol. III, p. 536, D. Van Nostrand Co., New York, 1949.  
<sup>2</sup> *Ibid.*, Vol. III, p. 552 ff.

Prior to World War II, the oil was produced chiefly in northwestern Sumatra (Atjeh) and, to a smaller extent, in the adjacent parts of British Malaya (Singapore and Penang). The plant material used for distillation originated almost exclusively from small fields cultivated by natives. The distilleries were usually owned by wealthier Malayans or Chinese. Limited quantities of dried leaves were exported from Malaya to Europe and the United States for processing in modern distillation plants. The bulk of the oil, however, came from Sumatra and British Malaya, total exports from these countries averaging about 25 metric tons per year. A few thousand pounds of oil were shipped from the Seychelles Islands, another producing region, and small quantities from Madagascar (Nossi-Bé). The occupation of Sumatra by Japanese forces during the last war, and particularly the civil strife on that island after the war, appear to have materially damaged Sumatra's patchouly industry. Plantings seem to have been neglected, the parcels of oils still produced are no longer being sent to Buitenzorg (Java) for analysis, and the quality of the lots smuggled from Sumatra to Singapore or Penang (for transshipment from there) has become quite inferior.

In British Malaya the political situation has also deteriorated, marauding bands of communists attack villages and plantations in the interior, and the wealthier planters have left



Fritzsche Brothers photo

Starting a patchouly plantation in São Paulo State, Brazil.

their property in the country for safety in the larger towns. This situation has resulted in greatly reduced production of patchouly oil and in a general lowering of quality.

Until 1939 prices of good patchouly oil on the New York market averaged about \$5.00 per pound, during the war they reached the phenomenal figure of \$80.00, and after the war they fell for a time to almost prewar levels; but lately they have again risen substantially, the result, probably, of heavy inventory buying. In the past few weeks the situation has improved somewhat and better grades are again reaching the world markets.

According to late reports from British Malaya, new patchouly plantings have just been started and may soon come into production. The situation, however, remains critical, and no one can predict what the future will bring to British Malaya. If this part of Asia should ever fall into the hands of communist forces, the Western World would be deprived of its oldest and largest source of patchouly oil.

In the light of this situation it seems most urgent that the Western Hemisphere develop its own source of supply in tropical Latin America. Many sections—in the West Indies, Guatemala and Brazil, for example—offer excellent ecological conditions for the successful cultivation of this labiate, and a number of planters are eager to start production of the oil. Here again, the greatest handicap lies in the lack of planting material; so far the agricultural experiment stations in British Malaya (where the best planting material is available) have simply refused requests to ship young plants to the Americas. Not even the British possessions in the West Indies seem to be able to obtain slips or cuttings from British Malaya.

The picture is not entirely hopeless, however. Fortunately, during the early days of the spice trade, two or three hundred years ago, Spanish and Portuguese ships returning from the Far East brought along many useful plants. These plants were frequently set out in gardens and propa-

gated near some friendly port along the eastern coast of South America. Neglected in the course of centuries, stray plants can still be found here and there; these will have to serve for propagation on a large scale today. In old gardens of Paraguay and Brazil, for example, the writer found patchouly plants, introduced there probably a long time ago. They have never been forgotten completely, because in households the dried plants are still used for the scenting of linen.

In the interior of São Paulo State (Brazil) large scale experiments in the cultivation of patchouly are being conducted at present—a long range and costly venture. The writer had occasion to examine the first samples of oil from this area and found them of excellent quality. If successful, this enterprise will be one of the most important ones in the vast program of developing a Pan-American essential oil industry. Substantial quantities of good patchouly oil could then be expected from Brazil in a few years.

**PERU BALSAM:** This pathological exudate is collected from the trunk of *Myroxylon pereira* (Royle), Klotzsch (fam. Leguminosae), a tall tree growing wild, and exclusively, in the great forests of the so-called "Balsam Coast," El Salvador, Central America. In normal years about 200,000 pounds of Peru balsam are produced annually in El Salvador, but lately production has been curtailed substantially, for unknown reasons. As a result of the short supply, prices have more than doubled in the past few months.

**PETITGRAIN OIL:** The bulk of this oil is distilled from the foliage of the so-called bitter-sweet orange, which tree represents probably a hybrid of the true bitter (sour) orange, *Citrus aurantium* L. subsp. *amara* L., and the sweet orange, *Citrus sinensis* (L.) Osbeck (fam. Rutaceae). The bitter-sweet orange occurs abundantly, wild and semi-wild, over wide areas of Paraguay.<sup>1</sup> For distillation purposes the tree is now cultivated extensively, the old stands of wild and semi-wild

<sup>1</sup> "The Essential Oils", Vol. III, p. 213 ff. D. Van Nostrand Co., New York, 1949.

trees having been exploited recklessly in the past fifty years.

Most of the field stills located in the interior of Paraguay are primitive, and yield regular types of oil that contain from 43 to 55 per cent of esters (calculated as linalyl acetate). In recent years a few modern field stills, originally designed for the production of high-grade lavender oil in Southern France, have been introduced into Paraguay, with the result that lately petitgrain oils containing up to 85 per cent of esters have been offered from Paraguay. (In these stills, the retort is surrounded by a steam bath, which keeps the temperature within the retort high, and allows for rapid distillation. This prevents accumulation of condensed water inside of the retort, hence reduces hydrolysis of the esters to a minimum.)

In normal years Paraguay produces from 200 to 250 metric tons of petitgrain oil annually; production could be increased if demand and prices should warrant it. Recently supplies of the oil from Paraguay have been very short—at times, in fact, almost unavailable—as a result of the unfortunate currency control imposed by the Paraguayan government.

The guarani/dollar exchange rate applying to exports of petitgrain has been fixed at such an artificially low dollar value that shippers receive in payment, for their exports, less do-

mestic money (guaranis) than they need to replace the quantity of oil shipped. In other words, honest dealers exporting through legal channels would at present lose considerable money on every transaction, hence they simply have to decline orders from abroad. This situation has resulted, naturally, in a lowered production of Paraguayan petitgrain oil. Some lots still reach oversea markets, but these are usually parcels that have been smuggled out of Paraguay—via Argentina or Brazil.

Illicit traffickers obtain regular dollar payments for their oil, and can exchange these dollars on the black market against guaranis at rates almost three times as high as the Paraguayan government would grant to the exporters operating through legitimate channels. It is to be hoped that this unfortunate situation will soon be remedied, either by a general devaluation of the guarani—there are many rumors to this effect—or by the institution of a normal dollar/guarani exchange rate applying to the exports of petitgrain oil. The latter is a very useful adjunct in the scenting of soaps and large quantities could be used if the oil were freely available.

About 1930, production of petitgrain oil was started on the island of Haiti (W.I.); in 1947/48 this reached almost 9 metric tons. The quality of the oil was excellent, the ester content varying between 60 and

80 per cent. However, the Haitian oil has not been offered lately in the United States, a situation which, perhaps, may change again.

Small quantities of petitgrain oil, distilled from the foliage of the true bitter (sour) orange tree, are produced in the Grasse region of Southern France, in North Africa and Sicily. This type of oil is of very good quality, hence much too costly to be used for the scenting of soaps and technical preparations.

#### PINE NEEDLE OIL, SIBERIAN:

This type of oil, actually a fir needle oil, is produced from the terminal branches and adhering needles (leaves) of *Abies sibirica* Ledeb. (fam. *Pinaceae*), a tree occurring over wide areas in the U.S.S.R. Exports of the oil are entirely in the hands of the Russian government, and no information as to production figures is available. The quantities offered on the American market are usually taken up in their entirety. Prices are absolutely out of our control.

#### PINE NEEDLE OILS, TYROLEAN:

For many years substantial quantities of pine and fir needle oils have been produced in the Austrian Tyrol and adjacent sections of northern Italy and Yugoslavia. The oils are distilled from the terminal branches and adhering needles (leaves) of several genera and species of coniferous trees which grow wild and abundantly in the great forest covering the Tyrol's beautiful mountains. Most important of these are *Abies alba* Mill, *Pinus sylvestris* L., *Picea excelsa* Lk., *Pinus mugo* Turra var. *pumilio*, and *Pinus cembra*, all belonging to the plant family *Pinaceae*.

Production of the oils represents a side industry in the strictly controlled Tyrolean forest management program (lumbering and thinning of the woods). Quality of the oils has been excellent, and their prices most reasonable, particularly in comparison with the generally high price level now prevailing in the essential oil industry. Tyrolean pine and fir needle oils have been employed in Europe for a long time and most successfully—

Field distillation of petitgrain oil in Paraguay.

Fritzsche Brothers photo



for example in bath preparations; their production could be increased still further. These really fine oils deserve much wider recognition and use in the United States.

In North, Central and South America, production of needle oils from coniferous trees is very limited. Small lots of oil are distilled in the northeastern and northwestern parts of the United States and adjacent sections of Canada, from *Tsuga canadensis* (L.) Carr., the so-called Eastern or common hemlock; *Tsuga heterophylla* (Raf.) Sarg., the Western hemlock; *Picea mariana* (Mill.) B.S.P., the black spruce; *Picea glauca* (Moench) Voss, the white spruce, all belonging to the plant family *Pinaceae*; and from *Thuja occidentalis* L., the Eastern white cedar (fam. *Cupressaceae*). However, the high wages prevailing in North America prevent any substantial expansion of this industry.

**ROSEMARY OIL:** Large quantities of this important oil are produced in Spain, and lately also in Tunisia, from the overground parts of *Rosmarinus officinalis* L. (fam. *Labiatae*), a small evergreen shrub growing wild and abundantly on sunny hillsides in Mediterranean countries.<sup>1</sup> The oil is distilled, almost throughout the year, in numerous field stills located in areas where plants are readily available. Between 1931 and 1935 Spain produced from 60 to 150 metric tons of rosemary oil per year, but with the outbreak of the Civil War the quantity fell off to about 10 tons. Since the end of the hostilities in 1939 production has increased again, amounting to about 175 metric tons in 1950. This increase resulted from the very high wages which the producers paid for the collection of the plant material.

Encouraged by the paucity of supplies coming from Spain during the Civil War, Tunisia started to produce rosemary oil and is now furnishing about 30 metric tons per year. Production in Tunisia seems to be gradually increasing; most of the oil goes to France and other parts of Europe. Dalmatia has now lost its dom-

<sup>1</sup> "The Essential Oils", Vol. III, p. 695 ff, D. Van Nostrand Co., New York, 1949.

inant position as a rosemary oil supplier, which that country held up to the outbreak of the first World War.

No rosemary oil is produced in the Americas, probably because there are no regions in which the wild plant grows as abundantly as in Mediterranean countries. For distillation on a commercial scale, the plant would have to be cultivated on large plantations.

**SANDALWOOD OIL, EAST INDIAN:** Is another, important essential oil that cannot be replaced by combinations of other odors. The oil is distilled from the heartwood (root, trunk and heavy branches) of *Santalum album* L., fam. *Santalaceae*, a medium-sized tree, growing wild and cultivated in the southern parts of India (Mysore and Coorg), and on the island of Timor.

Chief producer of the oil is the Government of Mysore, which holds a complete monopoly over the sandalwood industry of this prosperous state. Every single sandalwood tree growing in Mysore State belongs to the government, and most of the wood is distilled in the government-owned factory located in Mysore, capital of the state. Some wood is exported by the Mysore Government to the United States for distillation purposes, in order to avoid the customs duty imposed by the United States upon imports of sandalwood oil. Small quantities of oil are produced in other parts of India (from sandalwood grown in the Province of Coorg), and in Europe (from wood imported either from Coorg or from the island of Timor). Total world production of sandalwood oil, East Indian type, cannot be estimated easily; it may amount to about 300,000 pounds per year. Prices have been high lately, and indications are that they may increase further in the near future.

There is no possibility of any sandalwood oil production in the Western Hemisphere for years to come, because large stands of the tree are nonexistent in tropical America. When visiting Asunción, capital of Paraguay, a short time ago, the writer to his great surprise, found a few sandal trees

in a garden, where they were planted a long time ago, probably from seed brought by early Spanish or Portuguese navigators from the Far East. The writer made arrangements to plant seeds of these trees elsewhere, in order to propagate them for future uses. However, it will take 30 years of growth for the trees to develop sufficient heartwood for distillation.

**SANDALWOOD OIL, WEST INDIAN:** Is distilled from the trunk and large branches of *Amyris balsamifera* L. (fam. *Rutaceae*), a tree that occurs wild and in large numbers on the island of Haiti (W.I.). This so-called sandalwood oil has no similarity to the East Indian product (see above). The two types differ widely in odor and physicochemical properties, and the West Indian oil could never replace the much more valuable East Indian. Although known for a long time, West Indian sandalwood oil has been produced in substantial commercial quantities only since about 1941. In the past few years, annual production has varied between 10 and 20 metric tons, but this total could be increased to 50 tons if demand and prices should warrant it. Ample supply of wood is available, but present distillation facilities would have to be increased.

The oil is employed as an adjunct in the scenting of soaps and technical preparations.

**SASSAFRAS OIL, BRAZILIAN:** Distilled from the trunk of *Ocotea pretiosa* Benth., also known as *Ocotea cymbarum* (fam. *Lauraceae*), a tall tree that grows wild and most abundantly in the vast virgin forests of Santa Catarina<sup>1</sup> (southern Brazil), a state settled mostly by people of German, Swiss and Austrian descent.

The oil was first distilled experimentally in 1938; since then commercial production has been undertaken on a very large scale, reaching as much as 300 metric tons in certain years. The oil contains about 90 per cent of safrole, a phenolic ether that serves as starting material for the preparation of heliotropin. Despite its

<sup>1</sup> "The Essential Oils", Vol. IV, p. 199, D. Van Nostrand Co., New York, 1950.

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## Early Soap "Giveaways" Shown at 18th Premium Exposition

PREMIUM buyers for soap firms were among those attending the 18th National Premium Buyers Exposition, held at the Hotel Stevens, Chicago, April 2 to 5. The affair was sponsored by the Premium Advertising Association of America, the president of which for the past year has been John M. Davidson, manager of the premium department of Colgate-Palmolive-Peet Co., Jersey City, N. J. Two other soap men, David B. Pickering, also with C-P-P, and R. P. Hoen of Hewitt Soap Co., Dayton, O., served on the exposition committee which organized and operated the big premium industry show.

In his presidential address at the convention's opening business session, Mr. Davidson reviewed organization activities of the past year and, since 1951 is the centennial year of premium advertising in America, he also recalled some highlights of the growing use of premiums.

Of interest in this connection was a display of historical relics which gave to the B. T. Babbitt Co., New York, the distinction of having first used premiums to help sell merchandise. It started just 100 years ago, according to Robert Brenner, Babbitt's advertising director of today. In 1851, B. T. Babbitt broke with the established custom of selling by weight soap cut from long bars and began offering "Babbitt's Best" soap in packages. Consumer acceptance of the innovation seemed to be slow, so it was decided to add something extra. Lithographs were selected as premiums and, according to Mr. Brenner, soon they were so popular that, before long, hardly an American home was without its lithographed picture offered by Babbitt.

Rare examples of the first Babbitt premiums were shown at the Premium Exposition. Among them was

a trio of picture cards first offered in 1851, showing children at play and scenic views in color. Later Babbitt offerings included large panel pictures of religious and other subjects, some of which dated from 1861 to 1896.

Soap makers still use premiums in large volume but picture cards have been replaced by more practical, usable merchandise. Current offerings include the following:

A simulated pearl necklace, with a retail value of \$1.20 is being offered by Colgate-Palmolive-Peet Co., for 35 cents and one "Palmolive" wrapper. A hanging copper bowl may be had from C-P-P for 50 cents and one "Peet's" soap box top.

"Rainbow Bluebird" pin, retail value \$1, by Haskins Bros. & Co., Omaha, a division of Manhattan Soap Co., for 25 cents and one "Blue Barrell" soap wrapper.

A pair of kitchen shears, retail value, \$1.49, by Dif Corp., Garwood, N. J., for 50 cents and two box tops from "Dif" cleaner.

Six gladiolus bulbs and eight packets of flower seeds, retail value \$2.10, by Cudahy Packing Co., Chicago, for 25 cents and two trade marks from "Old Dutch" cleanser.

And 210 Westinghouse "Laundromats" to winners of six weekly sentence completion contests (with one "White King" soap box top), sponsored by White King Soap Co., Los Angeles.

These six premium offers, reported in the March issue of the trade magazine, *Premium Practice and Business Promotion*, represent only new offerings made since the previous month's issue of the publication. In addition many other earlier premium offers are still current.

A tabulation of those offers, prepared by that magazine indicated

that during 1950 the following manufacturers of soaps, cleaners and other sanitation products offered the number of premiums specified after each name:

Armour & Co., 7; B. T. Babbitt, Inc., 5; Barcoline Co., 1; Barton Chemical Co., 3; Blue Cross Labs., 1; Bristol Myers Co., 2; Climalene Co., 7; Colgate-Palmolive-Peet Co., 21; Conti Products Co., 1; Cudahy Packing Co., 1; Culligan Zeolite Co., 2; Dunaway Corp., 3; Economics Labs. Inc., 3; Griffin Mfg. Co., 1; Iowa Soap Co., 4; S. C. Johnson & Son, Inc., 2; Kendall Mfg. Co., 2; Laco Products, Inc., 1; Lambert Pharmacal Co., 1; Lever Bros. Co. (for soaps) 13; Manhattan Soap Co., 4; Newell Gutradi Co., 1; Perfex Mfg. Co., 5; J. L. Prescott Co., 1; Procter & Gamble Co., 9; Renuzit Home Products Co., 1; Snap Co., 1; Sterling Drug Co., 7; Swift & Co., 1; White King Soap Co., 1; Whitehall Pharmacal Co., 1; Allen B. Wrisley Co., 1.

Contests were also conducted during 1950 by the following companies for which prizes ranged from cash awards to automobiles, television sets, refrigerators, etc., etc.:

Cameo Corp.; Cudahy Packing Co.; Culligan Zeolite Co.; Lever Bros. Co.; Oakite Products, Inc.; Procter & Gamble Co.

One chemical specialty manufacturer was among the 135 exhibitors of varied premium merchandise.

Cadie Chemical Products, New York, presented its line of polishing cloths for premium use. Featured was a jeweler's rouge polishing cloth. Other polishing cloths shown were for use on autos, furniture, shoes, window glass, metals, etc. Some, it was announced, make use of silicones, and several were presented in newly designed packages. Edwin W. Meyers was in charge.

Empire Brush Works, Inc., Port Chester, N. Y., and H. Hertzberg & Son, Inc., New York, jointly occupied a booth for display of brushes, brooms and mops, some in regular sizes, and others proportioned for use as toys, with L. Klein, New York manager, in charge.



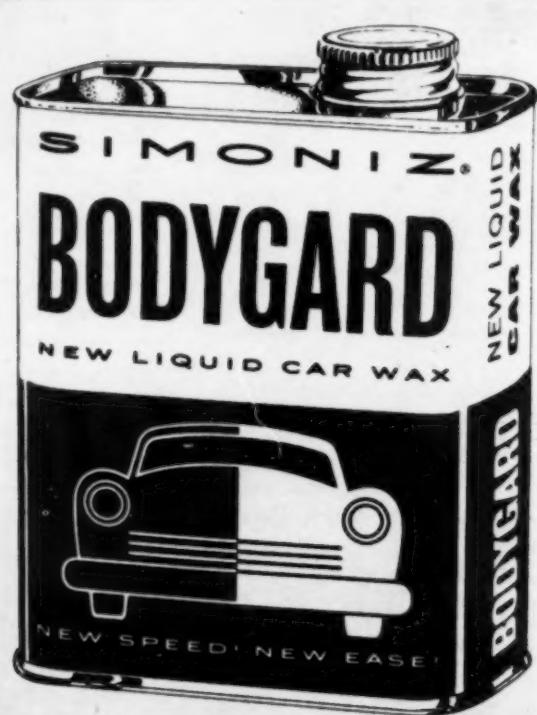
# WHAT'S

Left: "Disho", new liquid dishwashing detergent announced recently by M. Werk Co., Cincinnati, and now appearing on midwestern grocery store shelves. Bottle is made by Maryland Glass Corp., Baltimore, and closure is by Owens-Illinois Glass Co., Toledo.

Below: a 2½ ounce tube of "Helene Curtis Creme Shampoo" has been added to the line of Helene Curtis Industries, Chicago. The tube, which retails for 49 cents, supplements the three jar style packages in which the product is also sold. Tubes are individually cartoned and packaged 12 to a display carton.



Newest entry in the liquid car wax field is "Bodygard", made by Simoniz Co., Chicago, and illustrated below. The 12-ounce can, retailing for 98 cents, is now being test marketed in the midwest.



# NEW?

The new and old package for "El Vampiro" insecticide powder made by Allaire-Woodward, Inc., now a division of I. P. Callison & Sons and recently moved to the Callison plant in Chehalis, Wash. Shape, size and style of the package remain essentially the same. A new color and the Good Housekeeping magazine seal have been added.



Uncle Sam Chemical Co., New York, recently adopted a new package for its clothes closet style paradichlorobenzene moth cake holder. The new package is lithographed metal and comes with or without jobber's imprinted circular that fits in the interior of the can.



Packer's Tar Soap, Inc., Mystic, Conn., has switched from metal cans in which to package its Tar Soap to a Gair-Reynolds Foilene folding carton made by Robert Gair Co., New York. The new carton has to duplicate the qualities of the metal can used for 25 years for the soap. A glassine lining on the inside of the reverse tuck carton proved to be the solution to the problem.



Right (outside) new "Woodbrite" silicone furniture polish announced recently by Boyle-Midway Co., New York, retails for 79 cents. The product is claimed to dry to a high luster without rubbing. It cleans at same time.

"Sprite" liquid dishwashing detergent of Sinclair Chemical Co., Toledo, is now being test marketed in that city and its surrounding territory. Packaging is an Owens-Illinois Glass Co., Toledo, bottle.

# P.Q. Soluble Silicates



*build generous suds*



How do your detergents lather? Half-heartedly? Volumes of quality suds are obtained quickly from soaps and synthetic detergents built with PQ Soluble Silicates. They increase the life-span of soap bubbles as much as tenfold. Another outstanding quality of silicate-built detergents is the ability to prevent re-deposition of removed soil.

Here is a group of dependable, thrifty allies for your soaps, synthetics and alkaline cleaners. (Over 50 products in the PQ line ranging from  $3\text{Na}_2\text{O}$ ,  $2\text{SiO}_2$  to  $\text{Na}_2\text{O}$ ,  $3.75\text{ SiO}_2$ ). Write for more information on the advantages obtained from using PQ Soluble Silicates in modern soaps and detergents.

PHILADELPHIA QUARTZ COMPANY

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P. Q. SOLUBLE SILICATES

## TRADE

# NEWS

### Dr. William Procter Dies

Dr. William Procter, 78, a director of Procter & Gamble Co., Cincinnati, and an authority on the marine and insect life of the area of Mount Desert Island, where he had set up a laboratory in 1921, died at his winter home in West Palm Beach, Fla., April 19. He was a native of Cincinnati, and a graduate of Yale University. He had also studied at the Sorbonne in Paris and at Columbia University. An organizer of Procter & Borden in 1902, he retired in 1920. Dr. Procter is survived by a brother.

### Werk To Be Liquidated

M. Werk Co., 119-year-old Cincinnati soap manufacturing firm, is going to be liquidated, it was announced recently by Raymond Kunkel, attorney for the firm. The company, which is owned by a Cincinnati syndicate including Louis Goldsmith, Edward E. Stokes, Theodore Washauer and Joseph Karp, was purchased by them for an estimated \$1,200,000 from the family of the founder on January 26, of this year. Werk Cook is president, Howard Dock, vice-president, and J. J. Underwood is secretary-treasurer. Reason given for the liquidation is that the firm's soap production has not been profitable for some time. It was expected that M. Werk Co. would be converted to a chemical line for defense work, but efforts to obtain the necessary chemical raw materials were unsuccessful, according to Mr. Kunkel. The firm recently brought out "Disho," a new liquid synthetic detergent, dishwashing product.

### Hodson Heads Iowa Soap

John F. Hodson, formerly general superintendent of Iowa Soap Co., Burlington, was elected president, succeeding Homer Banta, at a reorganization meeting April 17. Mr. Hodson has been with the firm for

over 20 years. In the reorganization, stockholders voted controlling interests to two Chicago investment firms.



JOHN F. HODSON

The soap company is now operating under the new setup. Iowa Soap Co. was started in the 1880's by three Alexander Brothers from Monmouth, Ill. In 1943, it was reported to have done a business of \$6,000,000.

### New Fels Detroit Reps.

The appointment by Fels & Co., Philadelphia, of Stiles Brokerage Co., Detroit, as its sales representatives in the Detroit territory, was announced recently. The Stiles firm has represented Fels in the remainder of the state of Michigan, as well as in northern Ohio and northern Indiana for about 30 years. The change in the Detroit arrangement now puts all of the area under one sales organization.

### Shifts Detergent Authority

Its authority over detergents, insecticides, fungicides and herbicides, and special waxes and polishes was delegated to the National Production Authority it was announced last month by the Petroleum Administration for Defense. The agency also turned over its responsibility for ammonia to the NPA.

### C-P-P Earnings Rise

An increase in its net income for the first quarter of 1951, as compared with the comparable quarter of a year ago, was reported late last month by Colgate-Palmolive-Peet Co., Jersey City, N. J. In the first three months of this year, the company had a net income of \$4,378,000 or \$2.04 per common share, as against \$3,677,000 or \$1.79 a share in the first quarter of 1950. Domestic sales for the first quarter of 1951 were \$72,725,000, as against \$49,888,000 in the first quarter of 1950. Sales of foreign subsidiaries, which are not consolidated, amounted to \$32,299,000 for the first 1951 quarter, as compared with \$22,126,000 in the first three months a year ago. The report points out that although price advances in the second half of 1950 are reflected in sales for the first quarter of 1951, the larger part of the increase is due to greater volume of units sold.

### Questions Soap Coupons

The distribution of coupons enabling purchasers to buy two packages of soap for the price of one, following increases in the prices of soap powders in Great Britain was the subject of a recent question in the British House of Commons. A Laborite woman member of the House asked the Minister of Food what factors were taken into consideration when authorizing the recent increase in the maximum prices of soap powders. He explained that the increased cost of certain ingredients and certain increases in manufacturing, packaging and distribution expenses, offset by certain savings from increased production, were considered. To this, the woman member brought up the question of free "purchasing vouchers." The Food Minister replied that at the moment any extra cost incurred by the free offers was not allowed in calculating the increases in prices.



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### Wrisley Heads Soap Unit

The formation of a soap, synthetic detergent and glycerine section, headed by George A. Wrisley, execu-



GEORGE A. WRISLEY

tive vice-president of Allen B. Wrisley Co., Chicago, as part of the Chemical Division of the National Production Authority, was announced last month. The section will handle problems relating to the soap and synthetic detergent and glycerine industries and will be the claimant agency for fats and oils and fatty acids. The production, supply and demand phases of fats and oils and fatty acids remain in the Department of Agriculture.

Mr. Wrisley is in Washington on Monday through Thursday. Initially he is concentrating on the formation of his staff and an Industry Advisory Committee. He may be reached at Glycerine, Soap and Detergents Section, Chemical Division (Chemical, Rubber and Forest Products Bureau of the N.P.A.), Room 2323, Temporary "T" Building, Constitution Avenue and 14th Street, N.W., Washington 25, D. C. The office telephone number is Sterling 5200, Extension 8101.

### Feb. Soap Fat Use Drops

Reported soap factory consumption of animal and vegetable fats and oils declined in February, as compared with January, according to figures released recently by the Bureau of the Census of the U. S. Department of Commerce. Fat and oil consumption for soap amounted to 179,975,000

pounds in February, as compared with 184,587,000 pounds in January and 175,826,000 pounds in December, according to Census figures. With the exception of grease, whose reported use rose slightly, all other important fats and oils used in soap making showed declines in February, as compared with the previous month.

### Light Tallow Ceiling Up

An amendment to the price ceiling regulation on fats and oils to permit the payment of a premium for tallow of a quality that bleaches to a desired light color was announced by the Office of Price Stabilization in Washington, April 10. The payment of a premium of  $\frac{1}{8}$ th to  $\frac{1}{4}$ th cent a pound over the regular price brings the order in conformity with normal trade practice. The action was effected through amendment 4 to CPR 6. A large part of the soap industry has followed the practice of paying a premium price for tallow which responds favorably to a refine and bleach test so that the resulting color is a desired light shade. Testing is done by the purchaser after the original sale.

### Warner-Hudnut Stock Issue

An offering of 320,000 shares of common stock of Warner-Hudnut, Inc., New York cosmetics and pharmaceuticals firm, was placed on the market early in April. A banking syndicated headed by F. Eberstadt & Co. handled the stock sale.

### Armour Reports Earnings

Net earnings of Armour & Co., Chicago, for the quarter ending Jan. 27, 1951, totaled \$7,668,512, equal to 1  $\frac{2}{5}$ th cents per dollar of sales, stockholders were told recently by F. W. Specht, president. Non-food operations, which include soaps, chemicals, etc., accounted for \$2,604,883 of the total earnings. Sales during the quarter amounted to \$549,763,796, a gain of 36 per cent over a year ago, and due, Mr. Specht said, to higher prices and a larger tonnage of goods sold. For the remainder of the year he viewed the outlook as "clouded by the uncertainties of price control."

### Miss Brown Joins Yardley

Yardley of London, Inc., New York, recently announced the appointment of Miss Kay Brown to its execu-



KAY BROWN

tive staff in the United States. She was formerly in charge of the merchandising of the small wares division of Bloomingdale Brothers department store, New York. Miss Brown, who joins the Yardley staff on June 11, was with Bloomingdale for five years. In addition to her merchandising duties, she served as assistant to David Falk, vice-president. Previously, Miss Brown was associated for 12 years with Kresge-Newark, N. J., department store, as buyer of cosmetics, stationery and books. A native of Seattle, Wash., Miss Brown lives in Montclair, N. J.

### Mennen Sales Head

Thomas G. Vandever, field sales manager for the past six years, was appointed sales manager of the Mennen Co., Newark, N. J., early last month.

### Patton Heads Armour Div.

The appointment of F. B. Patton to the newly created post of general manager of the chemical division of Armour & Co., Chicago, was announced recently by E. W. Wilson, vice-president. Formerly manager of soap operations, Mr. Patton has been with the firm since 1923. The new appointment, according to Mr. Wilson reflects the rapid growth of the division in keeping with the demand for the company's chemicals.



How close  
can you get  
to JASMIN?

### Hexyl Cinnamic Aldehyde Extra

When you use Hexyl Cinnamic Aldehyde Extra, you're as close to the true odor of Jasmin as your nearest Du Pont supply of this fine synthetic. What's more, its subtle refinement, pure delicate odor and freedom from chemical by-notes specially suit it for premium floral and fancy bouquets.

So smooth . . . so soft! Hexyl Cinnamic Aldehyde Extra is our answer to your requests for a finer grade of Hexyl Cinnamic Aldehyde . . . the stable, long-lasting, non-discoloring synthetic you've found so useful in soaps.

For more information about either of the Hexyl Cinnamic Aldehydes, write E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Department, Aromatics Section, Wilmington 98, Delaware. Branch offices: Atlanta, Boston, Charlotte, Chicago, New York, Philadelphia, Providence, San Francisco.

For jasmin and other floral bouquets, check into Du Pont JASMIN SYNTHETIC 50 . . . our newest all-purpose jasmin. \$7.00 per trial lb.\*

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\*Prices subject to change.



## H. Kohnstamm & Co. Is 100 Years Old

THE growth from a small store in downtown New York City, where a color importing business was con-



LOUIS WOOLF

ducted, to its present status as the largest and possibly the oldest laundry supply house in the world with 600 employees is the nutshell history of H. Kohnstamm & Co., New York, which is currently celebrating its 100th anniversary. In 1851, Joseph Kohnstamm, a young immigrant boy, whose family had been color chemists for many generations in Europe, founded a color importing business in a small store at No. 3 Tryon Row, New York. The business of importing and selling ultra-marine blue expanded to the point at which it became logical to manufacture and distribute in the U. S. In addition, other products such as heavy chemicals, soap powders and other laundry supplies began to be manufactured. From this grew the company as it is known today.

When other members of the family joined Joseph Kohnstamm the business name was changed to H. Kohnstamm & Co. Eventually, in 1922, it was incorporated with the main office located at 83 Park Place, New York. In addition, the company has a western division headquarters located in Chicago, with branch offices in Atlanta, Boston, Buffalo, Cleveland, Cincinnati, Dallas, Denver, Detroit, Houston, Indianapolis, Jacksonville, Kansas City, Los Angeles, Minneapolis, New Orleans, Omaha, Philadelphia,

Pittsburgh, Portland, Ore., St. Louis, Oakland, Memphis, San Antonio and Seattle.

Factories owned and operated by H. Kohnstamm & Co. are located in Camden, N. J.; Brooklyn; Kearny, N. J.; and Clearing, Ill.

Present officers of the company include Louis J. Woolf as president and treasurer; Hugo Pulver, Charles D. Allen and Richard S. Carmel, vice-presidents; Robert A. Phair, secretary; Edwin W. Mayer and Joseph M. Castellano, assistant secretaries, and Walter J. Kohnstamm and Isidore Streisfeld, assistant treasurers.

### New Ungerer Chi. Office

The Chicago office of Ungerer & Co., New York, was moved recently from 325 W. Huron St. to 1607 W. Howard St., Chicago 26. E. M. Tysdal and Ira Bennett are in charge of the firm's Chicago branch.

### Lever Advances Connor

Election of John C. Connor as assistant treasurer of Lever Brothers Company was recently announced by M. A. McManus, treasurer. Mr. Connor, who formerly held the position of general accounting manager, has been a member of the Lever organization since 1929, when he joined the company as an accountant. In 1931 he was named section head of the capital expenditure department and eight years later became assistant chief accountant. He was appointed head of the accounting department in 1947. Prior to joining Lever, Mr. Connor was a member of the securities division of the Associated Gas and Electric Company, Ithaca, New York. He is a graduate of the Bentley School of Accounting and Finance and is a resident of Fleetwood, N. Y.

### Zuck Inland Steel V.P.

The election of Gordon D. Zuck as vice-president in charge of sales of Inland Steel Container Co., Chicago, was announced recently. He joined the Inland Steel subsidiary in

1933 as sales promotion and advertising manager, and was made manager of chemical and food container sales in 1940. Since 1946 he has been general sales manager.



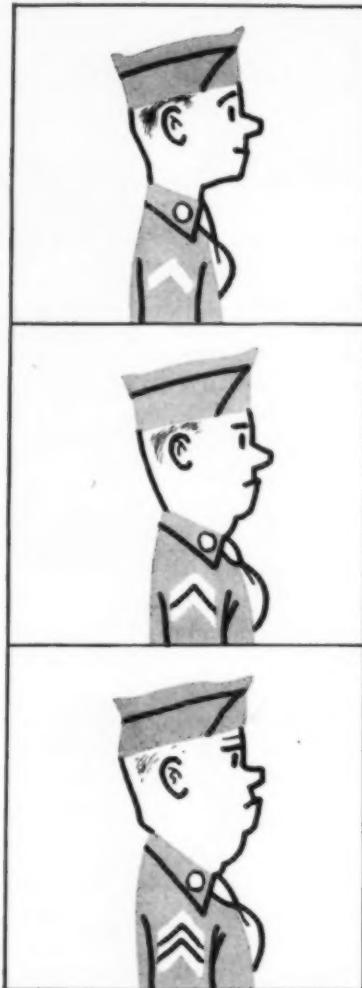
GORDON ZUCK

### Award to Soap Firm

Suds Co., Wyandotte, Mich., received its official charter as a member of the Junior Achievement organization at a luncheon recently. The charter was presented by the liquid soap manufacturing company's sponsor, Sharples Chemicals, Inc., Wyandotte. It was presented by Howard Bjork, vice-president in charge of production at Sharples. Don Curtis, president of Suds Co., received the award on behalf of his company.

### Cos. Chemists Meet May 18

The "Stability Testing of Low Pressure Aerosols" by Eugene Rose, of G. Barr & Co., Chicago, and the "Study of the Mechanism and the Evaluation of Antiseptic Action" by Dr. Herbert L. Davis of Ethicon Suture Laboratory, are among the papers to be presented at the semi-annual technical meeting of the Society of Cosmetic Chemists, to be held May 18, at the Biltmore Hotel, New York. Both papers are to be presented at the afternoon session, as is one on "Consumer Tests and Consumer Acceptance" by Dr. Erwin DiCyan of DiCyan & Brown, New York. Dr. Louis Schwartz of Washington, D. C., likewise will present a paper at the afternoon session on "Skin Testing of New Cosmetic Products."



## Carbose promotes soap detergency, too

You're probably familiar with the job Carbose\* can do for synthetic detergents. Well, it lends a helping hand to soaps, too.

Both built and unbuilt soaps will have increased soil removal and whiteness retention when Carbose is included in the formula. As little as from 3 to 5% Carbose added to a soap may increase its soil removal properties by 40% . . . may double its whiteness retention.

In a built soap, Carbose increases the amount of builder which may be added without sacrificing whiteness retention properties. Above a 3% concentration, it increases soil removal. In any concentration, it increases whiteness retention. We've got the figures to back this up . . . and we'd be glad to send them to you.

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SOAP and SANITARY CHEMICALS

### Joseph Barsalou Dies

Joseph Barsalou, 55, president of Barsalou Soap Co., Montreal, before the firm was acquired by Procter & Gamble Co., Ltd., and a stock broker for the past 15 years, died April 22, at his home in Montreal.

### AASGP Fatty Acid Div.

The formation of a Fatty Acid Section of the Glycerine Division of the Association of American Soap & Glycerine Producers, Inc., has been authorized by the Association's board of directors, it was announced recently. The group, which now has 18 members, has elected a steering committee composed of the following: E. A. Moss, Swift & Co., Chicago, chairman; A. W. Schubert, Emery Industries, Inc., Cincinnati, vice-chairman; S. Andrews, General Mills, Inc., Minneapolis; H. Lenz, Armour & Co., Chicago; W. O. Robertson, A. Gross & Co., New York, and A. J. Spieler, Celina Stearic Acid Co., Celina, O.

In addition, two committees, a technical and statistical committee, have been formed. The technical committee is composed of George Zinzelian, E. F. Drew & Co., Boonton, N. J., chairman; E. H. Bluman, W. C. Hardesty & Co., New York; R. F. Brown, Emery Industries, Inc., Cincinnati; Frank Haas, Archer-Daniels-Midland Co., Minneapolis; R. P. O'Rourke, Woburn Chemical Co., Kearny, N. J.; L. L. Sutker, Wilson Martin Co., Philadelphia, and D. H.

Wheeler, General Mills, Inc., Minneapolis.

The statistics committee, for which no chairman has been chosen as yet, is made up of S. Andrews of General Mills, Inc.; K. K. Boyd, Emery Industries, and S. K. Plasman, Armour & Co.

### Emery Sales Changes

Emery Industries, Inc., Cincinnati, announced recently the appointment of J. A. Funk and William J. Siemens, Jr., to the sales staff. Mr. Funk is working out of the home office in Cincinnati and covers southern Ohio and Indiana and eastern Kentucky. Western Pennsylvania, West Virginia and western New York state are being handled by Mr. Siemens.

Other changes announced at the same time by Emery include the appointment of W. G. Hibarger, who formerly sold in the above territories, as district manager of the newly established Chicago office. He is assisted by D. R. Robertson and A. R. McDermott. They are covering northern Illinois, Indiana and Iowa, Wisconsin and Minnesota. In addition, Mr. Robertson covers all of Michigan, except Detroit, on chemical products, and Detroit and northern Ohio on specialty products.

Photo of eleventh annual dinner for members of the DSC and its associates tendered by Magnus, Mabee & Reynard, Inc., New York, held recently at the Hotel Statler, New York. Five hundred guests attended the dinner and the cocktail party that preceded it.

### With Lever 25 Years

T. B. Stedman, central regional sales manager in Chicago for Lever Brothers Co., New York, recently celebrated his 25th year with the firm. He joined the company on the introductory work of "Lux Toilet Soap" in Detroit. Eventually he became a salesman; field manager; assistant sales manager for "Spry"; division manager in Syracuse, Minneapolis and Detroit. He was presented recently with a Lever "Quarter Century" pin.

### Hershey Strike Ends

A three-day walk-out of 1,100 employees of Hershey Estates, Hershey, Pa., ended April 5 following a settlement granting the strikers a seven-cents-an-hour wage increase. The Estates operates various enterprises including a soap plant, hotel, inn and a zoo.

### Soap Dispenser Exemption

Soap dispensers are among the items which need not be computed in construction costs for gasoline filling stations under the \$5,000 small-job exemption of NPA Construction Order M-4, it was announced recently by the National Production Authority, U. S. Department of Commerce and the Petroleum Administration for Defense, U. S. Department of the Interior.





Three sparkling synthetic oils  
**FOR SOAPS**



*Every advantage of the original products without the disadvantages*

Use these synthetic replacements in your soap formulations . . . they offer you splendid opportunities for economy. They are less expensive than the natural oils, yet give the same full-bodied strength, richness and aroma.

Bergamot, Geranium and Hydroxallys are stable, nondiscoloring, uniform and adaptable . . . excellent and *successful* replacements in every way. For working samples of all three, write Bush Aromatics, Dept. AR 2A, on your company letterhead.

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## Soapers at Beauty Show

Hair preparations highlighted the new products exhibited at the annual International Beauty Show held April 2-5 at Manhattan Centre, New York. A retail package of a cream shampoo containing G-11 was featured in the exhibit by Raymond Laboratories, Inc., St. Paul, Minn. The product is known as GDT and is packaged as a cream in tubes, or a liquid cream in bottles. John H. Breck, Inc., New York, exhibited various hair shampoos and dressings; Kay Daumit, Inc., Chicago, showed its "Lustre Creme" Shampoo; and the New York Soap Co., Brooklyn, exhibited a number of soap products, disinfectants, deodorants, and shampoos.

Industrial protective creams designed to reduce or prevent contact dermatitis were exhibited by Hygiene Research, Inc., New York; Chemical Specialties, Inc., Springfield, Mass.; and John H. Breck, Inc., Springfield, Mass. Industrial soaps and cleansers were featured by R. M. Hollingshead Corp., Camden, N. J.; Lightfoot Schultz Co., New York; G. H. Packwood Manufacturing Co., St. Louis, Mo.; and West Disinfecting Co., Long Island City, N. Y.

Vestal Laboratories, Inc., St. Louis, Mo. featured an antiseptic liquid

soap containing hexachlorophene. The soap was recommended for use by workers in food and industrial plants. Stephan Chemical Co., Chicago, introduced "Neutra-Foam", a synthetic skin detergent composed of an alkanoamine salt of the sulfuric ester of technical *n*-dodecanol. The product is sold as a liquid and has a maximum pH of 7.2.

## Acquires Interstate Color

Interstate Chemical Co. is now operating as a division of Leeben Chemical Co., New York, after having been acquired recently by the latter firm. Interstate is now located at 389 Washington St., New York 13, headquarters of Leeben.

## SOCMA Meeting Dates

Meeting dates for the remainder of the year of the Synthetic Organic Chemical Manufacturers Association of the U. S. include the Spring Outing at the Greenbrier, White Sulphur Springs, W. Va., June 14-16; and fall luncheons Sept. 12, Oct. 10, Nov. 14 at the Commodore. The annual meeting and dinner will be held at the Hotel Commodore, Dec. 11. The spring outing will be a joint affair with the Manufacturing Chemists' Association.

## Gen. Aniline Earnings Up

Earnings of \$1,866,000, equal to \$2.50 on Class A shares and 25 cents on Class B shares, on first quarter 1951 net sales of \$27,913,000 were reported recently by General Aniline & Film Corp., New York. The firm in the first three months of 1950 had sales of \$21,064,000 and a net profit of \$1,412,000. The company, which is still under Government control, elected Thomas A. Morgan, president of Sperry Corp., Brooklyn, as a director, succeeding Richard C. Patterson, Jr., who resigned upon being appointed United States Minister to Switzerland.

## Curran Now Gunk Atlantic

The formation of a new company, Gunk Atlantic, Inc., licensed to manufacture and market "Gunk" solvents in the eastern part of the U. S., was announced recently by Curran Corp., Lawrence, Mass.

## Package Detergent Sales Up

Sales of packaged detergent and soaps rose from 60,000,000 cases of two dozen packages in 1940 to 90,000,000 cases in 1950, according to R. E. Anthony, general field sales manager in the United States for Lever Brothers Co., New York. He spoke at a recent divisional meeting in Atlanta of Lever sales representatives from the seven southeast States. He also told the more than 55 sales representatives at the meeting that Lever Brothers Co. will spend more than \$500,000 in the Atlanta division area alone in promoting "No Rinse Surf".

"There is no indication of a let-up in the growth of packaged soaps", he said, pointing out that the growth of the heavy-duty detergents had been "amazing". He added that he believed it would continue to expand at the same rate.

Other speakers at the meeting were H. L. Wieneke, regional manager in Atlanta for Lever, and Tom W. Pierce, divisional manager of the firm for the seven southeastern States, with headquarters in Atlanta. Miss Ruth Hodge and J. R. Wood of the company's laboratories at Cambridge, Mass. demonstrated the "no rinse" features of "Surf."

Procter & Gamble Co.'s carton for "Prell" shampoo won a first place award in the 1951 carton competition staged by the Folding Paper Box Association at its Chicago convention recently. Carton manufactured by Crowell Carton Co.





Uniformly dependable quality that you and your customers can depend upon is assured by the A. R. Maas Chemical Company label. Know more about MAAS Chemicals — write today for informative literature concerning your problems.

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SOAP and SANITARY CHEMICALS

### On Brand Names Board

William G. Werner, director of public relations for Procter & Gamble Co., Cincinnati, and Roy W. Peet,



WILLIAM G. WERNER

manager of the Association of American Soap & Glycerine Producers, Inc., New York, were named to the board of directors of Brand Names Founda-

tion, at its sixth annual Brand Names Day meeting held at the Hotel Commodore, New York, April 11. Mr. Werner was elected to serve for one



ROY W. PEET

year. Mr. Peet was named to serve on the Foundation's board for one year as the representative of the AASGP. This is his second term.

### Klenzade Seminar

The 15th annual educational seminar of Klenzade Products, Inc., Beloit, Wis., was held April 5, 6 and 7 at Pocono Manor Inn, Pocono Manor, Pa. The theme of the meeting was sanitation in its various phases. Program subjects include: "The Place of Chemistry in Sanitation"; "Function of Alternate Cleaning"; "Application of Chemical Germicides"; "Newer Developments in Plant Cleaning Aids"; "Advances in Design for Easier Cleaning of Food Plant Equipment" and "Sanitation—Present and Future."

Among the speakers who took part in the seminar, at which there were group panel discussions of cleaning problems, sanitation bacteriology, sanitation chemistry, etc., were Dr. Luther A. Black of the U. S. Public Health Service; Dr. O. M. Morgan of National Aniline Division of Allied Chemical & Dye Corp., New York; Dr. Daniel H. Terry of General Dye-stuff Corp.; John D. Faulkner of U. S. Public Health Service; Dr. H. G. Harding of National Dairy Research Laboratories, Oakdale, N. Y.; Paul Corash, New York City Department

of Health; E. B. Buchanan of the Cleveland Health Department; Dr. F. W. Graves, N. Y. C. Department of Health; Dr. C. K. Johns of the Dominion Department of Agriculture, Toronto, Ont., Canada; Jerome Trichter, N. Y. C. Department of Health; C. W. Weber, New York State Department of Health.

### Specialties at Safety Show

Skin protective creams, non-skid floor products, industrial hand soaps, insecticides and disinfectants were among the chemical specialty products featured at the 21st annual Safety Convention and Exposition, held April 3-6 at the Hotels Statler and Governor Clinton, New York. The exposition was sponsored by the Greater New York Safety Council and cooperating agencies.

Chemical Service of Baltimore, Baltimore, at its exhibit featured a floor cleaner, which incorporates a disinfectant conditioner. Also shown was "Cetox" floor wax. A special point is the non-slip characteristics of this wax when wet.

### Lever Wage Increase

Lever Bros. Co., New York, has granted a pay raise and cost of living adjustment totaling 18 cents an hour, to 1,050 members of Local 336, CIO Gas, Coke & Chemical Workers union, employed in Lever's Chicago area plant. The new contract brings average hourly wage to \$1.76 and will run to March 14, 1952, subject to approval by the Wage Stabilization Board.

### Copra Imports Rise in '50

U. S. Imports of copra and coconut oil in 1950 were 11 per cent greater than in 1949. Last year 466,628 short tons of copra and 68,872 tons of coconut oil were imported by the U. S. Actual copra imports in 1950 were more than double the pre-war average while coconut oil imports were less than half the pre-war tonnage.

Imports of palm oil into the U. S. in 1950 amounted to 28,200 tons, compared with 41,170 tons in 1949 and an average of 160,741 tons during 1935-39. The bulk of last year's palm oil imports came from Africa, with the Belgian Congo supplying four-fifths and Nigeria one-fifth of the total. In prewar, the bulk of the arrivals came from the Far East.

### Celebrate P&G Profit Plan

Employees of the Kansas City plant of Procter & Gamble Co., Cincinnati, met at the Granada theatre in Kansas City, Feb. 17, to celebrate the 63rd year of the company's profit sharing plan. Talks by R. Z. Smiley, plant superintendent and F. A. Brown, general manufacturing manager, highlighted the meeting.

The occasion marked a year in which Procter & Gamble paid out \$1,325,000 in profit-sharing dividends to its employees in the United States and Canada. The program, which was introduced by William Cooper Procter in 1887 is thought to be one of the oldest in the U. S. More than \$28,700,000 has been paid out in dividends. The program is credited by company officials with influencing the unusually low rate of employee turnover, said to be about one-fifth of the American industrial average.

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### Hold Local Soap Meetings

In addition to a meeting of the board of directors of the Association of American Soap & Glycerine Producers, Inc., at the Hotel Waldorf-Astoria, May 24, three regional meetings of AASGP members have been scheduled for May. These include a luncheon gathering of soap makers in the Brooklyn-Long Island area at the Hotel St. George, Brooklyn, May 9; a similar meeting of soapers from the Manhattan and Bronx, May 10, at the Waldorf-Astoria, and a luncheon of Northern New Jersey soapers at the Hotel Robert Treat, Newark, N. J., May 11. These local soap meetings, at which Roy W. Peet, manager of the Soap Association, will represent the AASGP, are a continuation of the custom begun last year of holding regional conferences of soap makers.

### TGA Meets May 15

Panel discussions dealing with distribution, raw materials and supplies and other industry problems are to highlight the 16th meeting of the Toilet Goods Association, at the Waldorf-Astoria Hotel, New York, May 15-17. Consideration of recent regulations pertaining to prices of finished goods and controls on raw materials and other supplies will be given by government representatives of NPA and OPS.

An innovation of this year's meeting is a golf tournament to be held Monday, May 14, at Winged Foot Golf Club, Mamaroneck, N. Y. Winner of the tournament will receive the Cecil Smith Memorial Trophy, to be presented at the group luncheon during the convention on May 16. The late Mr. Smith was head of Yardley of London, Inc., New York.

Papers on the effect of hard and sea waters upon the cleansing action of shampoos, by G. Barnett and D. H. Powers of Warner-Hudnut, Inc., New York, and the perfuming of aerosols, by Victor Di Giacomo of Givaudan-Delawanna, Inc., New York, are to be presented at the spring meeting of the TGA's Scientific Section on the final day of the meeting, May 17. On that day, too, the Fragrance Foundation holds its annual meeting.

Other features of the meeting

of TGA include the election of officers; a closed meeting of TGA members on the afternoon of May 16, following the second of two group luncheons, and the presentation of the Charles S. Welch packaging awards.

### APHA Meets Oct. 29-Nov. 2

The 79th annual meeting of the American Public Health Association, the 18th annual meeting of the western branch of APHA and meetings of 38 related groups will be held simultaneously in San Francisco, Oct. 29-Nov. 2. Symposia are under development for the meeting by 13 sections of the APHA covering such subjects as industrial hygiene, public health education, sanitary aspects of the food supply in time of disaster, industrial sanitation, biological warfare, etc. Local arrangements for the meeting are under the direction of Dr. J. C. Geiger, director of public health of the city and county of San Francisco, according to Dr. Reginald M. Atwater, executive secretary of the American Public Health Association.

### Lever Samples Surf

Free samples of "No-Rinse Surf" synthetic detergent, made by Lever Brothers Co., New York, are being distributed to 3,200,000 homes and apartments in the New York area. About 500 distributors are leaving free, full-size samples of the detergent with all housewives who are home, as well as at homes where there is a likelihood the sample will go to the occupants. In all other cases, coupons good for 15 cents toward the purchase of the detergent are being distributed. The sampling marks the introduction of the product in the New York market. National distribution is expected to be completed this month.

### Mulligan Joins Felton

Arthur A. Mulligan, formerly of Robinson-Wagner Co., New York, and previously with Lehn & Fink Products Corp. Bloomfield, N. J., recently became a member of the sales staff of Felton Chemical Co., Brooklyn. During World War II he served with the U. S. Army Air Forces, achieving the rank of Major.

### Calif. Oil Chems. Meet

The first meeting of an organization recently formed under the name Northern California Oil Chemists will be held at Fable's restaurant, 340 Stockton St., San Francisco, May 18, at 6:30 p.m. Program for the meeting will consist of a report of papers presented at the annual meeting of the American Oil Chemists' Society, held in New Orleans, May 1-3. The idea of holding semi-annual meetings, preferably after national conventions of the AOCS, had its inception last September in an informal gathering of Bay Area (Calif.) oil chemists. At that time a steering committee, consisting of J. A. Kneeland, W. C. Wood and E. B. Kester was elected. The committee met recently and recommended that an organization be formed under the name Northern California Oil Chemists.

### Multi-Clean Names Hesli

Gene Hesli, for the past four years factory representative in Chicago and the midwestern territory comprising Illinois, lower Michigan, eastern Wisconsin, St. Louis and Louisville, was recently named sales manager of Multi-Clean Products, Inc., St. Paul, where he is making his headquarters. He is in charge of advertising and sales promotion for the company, which does an annual sales volume of nearly a million and a half dollars.

Prior to joining Multi-Clean, Mr. Hesli worked for J. I. Case as a territory sales representative, a position he took following his graduation from the University of Minnesota Institute of Technology in June, 1939.

### Nichols Appointed

Thomas S. Nichols, on leave of absence as president and chairman of the board of Mathieson Chemical Corp., Baltimore, has been appointed deputy administrator of the National Production Authority to succeed Glen Ireland, who returned to his position as vice-president of the Pacific Telephone and Telegraph Co. Mr. Nichols has been serving as special assistant to Manly Fleischmann, administrator of NPA, since early March.



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### A-D-M Shifts Werler

Paul Werler was transferred recently from the New York sales office of Archer-Daniels-Midland Co. to the market research and development department at the home office in Minneapolis.

### Allocate Sulfuric Acid

Sulfuric acid was placed under allocation control in 11 western States by the National Production Authority April 18. Buyers in those states, where the shortage is said to be particularly acute, are required to certify to their suppliers the uses to which the acid will be put. Suppliers must report to N.P.A. on their customers, quantities of the acid used and end uses. Purchasers of 60 tons or less per month are exempted. States affected by the order are Washington, Oregon, California, Arizona, New Mexico, Nevada, Utah, Colorado, Wyoming, Idaho and Montana.

### New CPR 22 Price Order

Price ceilings on potash soaps or bulk soaps for industrial or institutional buyers were set up with the issuance April 25 by the Office of Price Stabilization of Ceiling Price Regulation 22. Exempt from the new general manufacturers' order are household soaps and cleansers, most fats and oils, including whale and fish oils, fatty acids, lard, inedible tallow and grease and glycerine, soap stock and waxes. Household soaps and tallow and grease prices are controlled by CPR 10 and 6, respectively. Glycerine prices are under the General Price Regulation of Jan. 26.

CPR 22 establishes ceiling prices, based on the period of April 1 through June 24, 1950, or any one of the three preceding calendar quarters selected by the seller. In addition, to the base period price can be added actual increases in raw materials (through 1950) and increases in factory payroll costs (through March 15, 1951). The sum of these three things represents the soap manufacturer's new ceiling price.

If a manufacturer's gross sales during the last complete fiscal year were less than \$250,000, he may elect

not to apply this new regulation but instead can remain under the original General Ceiling Price Regulation for his industrial soaps and industrial synthetic detergents. Specific price ceilings on soap stock and certain fatty acids are to be issued shortly, as is a ceiling on natural glycerine.

Coconut oil and some other oils and oil seeds and nuts, which are imported are still exempt from price ceilings.

The new order also applies to insecticides, floor waxes and polishes, disinfectants and related chemical specialty products.

### New Westvaco Plant

The opening of its three and one-half million dollar sodium phosphate plant in Lawrence, Kans., is scheduled for late this month or early in June, it was announced recently by Emil P. Podsiadlo, local Resident Manager for Westvaco Chemical division, Food Machinery and Chemical Corp., New York. The new plant, which includes several large buildings, covers 10 acres. It is being constructed by Bechtel Engineering Corp., San Francisco, builders of the new Lever Brothers Co. plant in Los Angeles. Approximately 80 persons will be employed at the new Westvaco phosphate plant.

### Huisking Co. Moves

Chas. I. Huisking & Co. and its divisions, Peder Devold Oil Co. and Santonine Co. of America, moved to larger quarters at 45 Clinton Ave., Brooklyn 5, N. Y., April 20. The firm was formerly located at 155 Varick St., New York.

### Cinn. Assn. Meets

Professor D. A. Wells, acting head of the Physics Department of the University of Cincinnati, spoke at the April 6 dinner meeting of the Cincinnati Drug and Chemical Association, held at the Cincinnati Club. He is the University of Cincinnati's representative for Argonne Laboratory in Chicago, and chairman of the University of Cincinnati's Committee of Atomic Energy Education.

### Straub Named Consultant

Secretary of Agriculture Charles F. Brannan recently announced the appointment to his staff of Walter F. Straub, head of the W. F. Straub Co., Chicago, Ill., since 1919, manufacturers of food products and chemical specialties. Mr. Straub will serve as a consultant on matters concerning marketing and food distribution. In 1946 he served the Dept. of Agriculture as director of the emergency food program, and in 1943-1944 he had served with the Office of Price Administration as director of civilian food distribution.

### Bon Ami Earnings Drop

A net profit of \$79,901, equal to 84 cents a Class A share was reported for the first quarter of 1951 by Bon Ami Co. and subsidiaries, New York. It compares with first quarter earnings of \$94,422, or \$1 a share on the Class A stock.

### Morgan Represents Armour

Clarence Morgan, Inc., Chicago, announced recently that it is now representing the chemical division of Armour & Co., Chicago, on its entire line, and continues active in the fatty acid industry as it has been for the past 32 years.

### New Continental Office

The Los Angeles sales offices of Continental Can Co., New York, was moved recently to a new office building at 1120 Wilshire Blvd. The can company occupies the ground floor of the two story building.

### N. E. Chem. Club Elects

At its annual closed dinner meeting held at the Parker House, Boston, April 9 the following officers were elected by the Chemical Club of New England: President, David J. O'Connell of Howe & French, Inc.; vice-president, Raymond Anthony, Solvay Sales Division, Allied Chemical & Dye Corp.; secretary, Richard D. Wilson, Doe & Ingalls, Inc.; treasurer, Howard C. Cunningham, D. H. Litter & Co.



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# TRADE MARKS

The following trade marks are published in compliance with section 13 (a) of the Trade Mark Act of 1946. Notice of opposition must be filed within 30 days of publication and a fee of \$25 must accompany each notice of opposition.

**Dr. A. J's Polypo**—This for tooth powder. Filed Apr. 2, 1949 by Arnold Johannes, Reno, Nev. Claims use since Apr. 2, 1949.

**"Tar-Gon"**—This for dentifrice in stick form. Filed Jan. 20, 1950 by Tar-Gon Products, Inc., Chicago. Claims use since Oct., 1949.

**New-Ra-Lize**—This for cleaning and polishing materials for wood and metal articles. Filed Dec. 14, 1949 by New-Ra-Lize Products, Westfield, Mass. Claims use since July 5, 1949.

**Bhot Atcha**—This for furniture polish. Filed Feb. 16, 1950 by Frederick D. Gwyer, Ardmore, Pa. Claims use since 1887.

**Pencal**—This for insecticides. Filed Aug. 31, 1948 by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use since July 23, 1948.

**Slaughter**—This for insecticides. Filed Feb. 3, 1949 by Dunham House Products, Long Island City, N. Y. Claims use since Jan. 18, 1949.

**DHA**—This for synthetic organic chemical used to suppress the growth of microorganisms. Filed Sept. 6, 1949 by Dow Chemical Co., Midland, Mich. Claims use since Aug. 9, 1949.

**Cee-Dee**—This for germicidal detergent and sanitizing preparation. Filed Nov. 23, 1949 by Fairfield Laboratories, Inc., Plainfield, N. J. Claims use since Feb. 1, 1947.

**Pacifate**—This for composition for treating cotton and leather goods to sterilize them by destroying existing, and preventing future growth of, bacteria, fungi, etc. Filed May 2, 1950 by Pacific Mills, Boston. Claims use since Apr. 7, 1950.

**Sor-Ride**—This for insecticides. Filed June 6, 1950 by Sor-Ride Products Co., Portsmouth, O. Claims use since May 24, 1950.

**Holiday**—This for liquid paint and varnish removers. Filed Apr. 4, 1949 by H. M. Woher & Son Co., Philadelphia. Claims use since Mar. 14, 1949.

**Arm**—This for cleaning and washing compounds. Filed Aug. 22, 1949 by Victor Chemical Works, Chicago. Claims use since January, 1917.

**Flobar**—This for liquid soaps. Filed Nov. 8, 1949 by Flor-Bar, Ltd., New York. Claims use since July 26, 1949.

**Drynamite**—This for drain pipe solvent. Filed Nov. 25, 1949 by P & M Manufacturing Co., Los Angeles. Claims use since March, 1930.

**Volax**—This for hand cleaning composition. Filed Feb. 16, 1950 by C. B. Dolge Co., Westport, Conn. Claims use since Oct. 1, 1949.

**Rain Water**—This for shampoo. Filed Mar. 1, 1950 by Rainwater, Inc., New York. Claims use since Feb. 14, 1950.

**Launder-ease**—This for laundry detergents. Filed Mar. 21, 1950 by Pacific Compound and Manufacturing Co., Seattle. Claims use since July 1, 1948.

**Bud**—This for cleaner for typewriter and printing type. Filed Feb. 16, 1950 by Bud Type Cleaner, Inc., Baltimore. Claims use since July 6, 1949.

**Glamur**—This for liquid cleaner for upholstery, rugs and carpets. Filed Apr. 25, 1950 by Hosid Products, Inc., Syracuse, N. Y. Claims use since Apr. 7, 1949.

**Holiday**—This for polishes for glass, silver and metal surfaces. Filed May 19, 1949 by H. M. Woher & Son Co., Philadelphia. Claims use since Apr. 19, 1949.

**Wonder-Wash**—This for cleaning compound for use in washing automotive vehicles. Filed July 12, 1947 by Shur-Gloss Manufacturing Co., Chicago. Claims use since Feb. 1, 1939.

**Shur Wonder Wash**—This for cleaning compound for use in washing automotive vehicles. Filed July 12, 1947 by Shur-Gloss Manufacturing Co., Chicago. Claims use since Feb. 1, 1939.

**Sham-Rins**—This for shampoo. Filed Sept. 29, 1948 by Modern Chemico, Highwood, Ill. Claims use since Jan. 22, 1932.

**Tombro**—This for cleaner for carpets, rugs, upholstery, etc. Filed June 17, 1949 by Thompson Chemical Co., Pontiac, Ill. Claims use since Apr. 1, 1949.

**Talisman**—This for toilet soap. Filed Oct. 20, 1949 by Charles of the Ritz, Inc., New York. Claims use since Oct. 10, 1945.

**Dojean**—This for soap. Filed May 26, 1950 by Sayman Products Co., St. Louis. Claims use since Feb. 1, 1949.

**TLM**—This for compound for use in cleaning fabrics. Filed June 7, 1950 by Takamine Laboratory, Inc., Clifton, N. J. Claims use since Apr. 17, 1950.

**Aphamite**—This for insecticide. Filed June 30, 1949 by Sherwin-Williams Co., Cleveland. Claims use since May 13, 1947.

**Zoom**—This for insecticides

Filed June 30, 1950 by Allied Chemical & Dye Corp., New York. Claims use since May 22, 1950.

**Belvidere**—This for brushless shave cream. Filed Feb. 20, 1950 by Belvidere Creations, Inc., Seattle. Claims use since Dec. 13, 1949.

**E-Z-Dent**—This for dental cleanser for false teeth. Filed May 1, 1950 by Bonafide Laboratory, New York. Claims use since May 30, 1950.

**Glass Magic**—This for glass washing compound primarily for brush machine use. Filed Aug. 18, 1949 by Economics Laboratory, Inc., St. Paul. Claims use since Apr. 18, 1948.

**505**—This for washing fluid. Filed Sept. 8, 1949 by 505 Products Co., Erie, Pa. Claims use since May 31, 1938.

**Numite**—This for cleaning compound for painted walls, wood-work, floors, rugs, carpets, etc. Filed Feb. 6, 1950 by Harrison Chemical, Detroit. Claims use since Aug. 14, 1948.

## Lever Opposes Trade Mark

Opposition to registration of the trade mark "Surge" for a detergent washing powder made by Babson Brothers Co. by Lever Brothers Co., New York, because of alleged similarity to its synthetic detergent powder "Surf" was overruled recently by the U. S. Patent Office. Examiner-in-Chief Klinge affirmed the decision of the Examiner of Trade Mark Interferences dismissing the opposition to the registration of the trade mark under the Act of 1946 in Class 4 for a detergent washing powder with a synthetic detergent added. The product comes in tablet and powder form.

Lever Brothers Co. opposed registration on the ground that the name "Surge" resembled closely that of "Surf." "Surf" is a registered trade mark for a detergent compound for general washing and cleaning. Lever also claimed prior use for its trade name as applied to a detergent.

It was held that the terms "Surf" and "Surge" are simple, well-known words, easily distinguished in pronunciation and ordinary connotation by the average person, since the final letters "f" and "ge" of the two words are distinctively different both in sound and appearance so that there is not such similarity between the words as a whole as would be likely to lead to confusion.

## DRYMET\*

### THE ECONOMICAL DETERGENT SILICATE

Cowles DRYMET, anhydrous sodium metasilicate, is the most highly concentrated form of sodium metasilicate available. It is more economical to use, on the basis of both  $\text{Na}_2\text{O}$  (alkalinity) and  $\text{SiO}_2$  (silicate) than any other type of hydrated or anhydrous detergent silicate, either compounded or by itself. DRYMET contains no water of crystallization.

## CRYSTAMET\*

### THE MEDIUM pH DETERGENT SILICATE

Cowles CRYSTAMET is a pure, perfectly white, free-flowing granular pentahydrate sodium metasilicate with the normal 42% water of crystallization. Suggested for compounding when it is desirable to lower the concentration of a finished product. Readily soluble—chemically stable—easy to handle. Can be used on medium pH jobs.

## DRYORTH\*

### THE HEAVY-DUTY DETERGENT SILICATE

Cowles DRYORTH, anhydrous sodium orthosilicate, is a powerful, speedy, heavy-duty cleaner with valuable penetrating and wetting-out properties, reinforced dirt-removing power and unusual emulsifying action. It is an anhydrous, free-flowing powdered silicate containing not less than 60%  $\text{Na}_2\text{O}$ , which may also be used as an economical constituent of high pH cleaning compounds.

## DRYSEQ\*

### THE ALL-PURPOSE DETERGENT SILICATE

Cowles DRYSEQ, anhydrous sodium sesquisilicate, is a medium pH alkaline cleaner which will do fast, dependable work at a low cost to the user. It is a white, free-flowing powder, quickly and completely soluble in hot or cold water—containing 56.75%  $\text{Na}_2\text{O}$ —making it an economical base material for compounding.



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# BIDS AND AWARDS

## Soap Award to Stahl

Stahl Soap Corp., Brooklyn, received the award on 50,000 pounds of toilet soap in a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C. The Stahl bid, the only one received in the opening, was 18.38 cents a pound.

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## Navy Cleaner, Soap Bids

Cardo Enterprises, Milwaukee, submitted the low bid of 7.98 cents a pound on 60,000 pounds of cleaner for painted surfaces in a recent opening for miscellaneous supplies by the Navy Purchasing Office, Washington, D. C. In another opening of the same office, Newell Gutradt Co., San Francisco, was the low bidder on 15,000 cakes of grit soap. The company bids were 3.63 cents, fob San Francisco, and 5.12 cents, fob Washington.

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## Disinfectant Awards

In a recent opening for miscellaneous supplies by the Armed Services Medical Procurement Agency, Brooklyn, the following firms received awards on disinfectant, etc.: Fine Organics, Inc., New York, 33.2 cents Edgewater, N. J., 40.7 cents Oakland, Calif., San Francisco and St. Louis, 41.5 cents Atlanta, 33.9 cents Schenectady, 40 cents Louisville; Standard Drug Co., Newark, N. J., item 2, 16.2 cents Edgewater, 7,584 bottles only; Vi-Jon Laboratories, St. Louis, item 2, 20.35 cents, export, and 18.1 cents, domestic, San Francisco, 18.1 cents, domestic, Oakland, Calif.

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## Misc. N. Y. Navy Bids

In a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, N. Y., low bids were submitted on the following items:

Dishwashing compound, Pilgrim Chemical Co., New Orleans, items a, 7.803c, b, 7.725c, c, 7.725c, d, 7.06c, e, 7.439c, f, 7.412c, g, 7.985c, h, 7.985c, j, 7.985c, k, 7.153c; deodorant blocks, Solvent Chemical

Co., Malden, Mass., items a, 19.25c, f, 21.5c and g, 19c, Paradise Products Co., Fairview, N. J., items b, 18.86c, c, 18.83c, d, 19.16c, e, 19.02c, h, 19.41c and i, 19.36c; buffing and polishing compound, Len Manufacturing Co., item a, 9.69c, Gerrell Manufacturing Co., items b and c, 13.4c; insecticide, Fluid Chemical Co., items 1a, 64c, b, 59.9c, c, 61c, d, 71c, h, 55.5c, 2a, 55c, c, 52.5c, h, 55.5c, i, 61.5c, Durham Chemical Co., item e, 63c, g, 63c, Wilco Co., item f, 61.96c, 2f, 56.26c, Gulf Oil Co., item 2, 75.51c, Ritone Laboratories Co., item 2b, 67c, Technical Soap Co., item 2g, 94c, Taylor Chemical Co., item 2j, 53c.

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## AQMC Soap Awards

Awards on laundry soap and ordinary issue soap went to the following firms in recent negotiated contracts with the Army Quartermaster Corps, New York: Colgate-Palmolive-Peet Co., Jersey City, N. J. and Mount Hood Soap Co., Portland, Ore. on an unspecified quantity of laundry soap. The award on the ordinary issue soap went to Colgate, Mt. Hood and Fitzpatrick Bros., Chicago.

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## Soap Powder Bids

The following bids were received on an unspecified quantity of soap powder in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York: Hershey Estates, Soap Division, Hershey, Pa., item 1a, 18c, b, 17.75c, fob plant Hershey, 17.25c; Gem Products Co., Dallas, Tex., item 1a, 18.698c, b, 19.497c, fob plant Dallas, 17.5506c; Continental Soap Corp., Chicago, item 1a, 17c, fob plant Chicago, 16.75c; Fitzpatrick Bros., Inc., Chicago, item 1a, 16.09c, fob plant Chicago, 15.85c; E. F. Drew & Co., Boonton, N. J., item 1b, 19c, fob plant New York City, 17.6c; Minnesota Chemical Co., St. Paul, item 1a, 19c, fob plant St. Paul, 18.6c; Youco, Inc., Philadelphia, item 1a, 22.9c, b, 22.54c, fob plant Philadelphia, 22c;

Procter & Gamble Co., Cincinnati, item 1a, 15.98c, b, 15.95c, fob Cincinnati, 15.73c; H. Kohnstamm & Co., New York, item 1a, 18.48c, fob plant New York, 17.9c; Original Bradford Soap Works, Inc., West Warwick, R. I., item 1b, 20.7c, fob plant West Warwick, 20.45c; E. F. Drew & Co., Boonton, N. J., item 1b, 20c, fob plant New York, 18c; Beach Soap Co., Lawrence, Mass., item 1a, 17.6c, b, 16.92c, fob plant Lawrence, 16.75c; Colgate-Palmolive-Peet Co., Jersey City, N. J., item 1, 17.81c, b, 16.93c; National Milling & Chemical Co., Philadelphia, item 1b, 17.2c.

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## Misc. FSS Awards

Awards on unspecified amounts of automobile polish in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C., went to Trio Chemical Works, Brooklyn, on item 51-P-1046-10, 24c, a quart, item 51-6-1046-15, 74c a gallon, item 51-P-1120, 12c a quart, and on item 51-P-1125, 18c a quart; Virginia Specialty Corp., Lynchburg, on item 51-P-110, 19.2c a quart.

The awards on an unspecified quantity of liquid soap (item 51-S-1715-25) went to Harley Soap Co., Philadelphia, with a bid of \$1.10 a gallon, on item 51-S-1715-35, \$1, and on item 51-S-1715-55, 98c.

Utility Co., New York, submitted the low bid and received the award on an unspecified quantity of grit hand paste soap in another recent opening of the Federal Supply Service, Washington, D. C. The Utility award was made on the basis of a bid of 5.95c per pound on item 51-P-250-100.

— • —

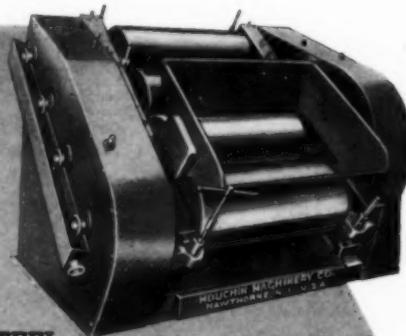
## Sharples Sales Head

George R. Lawson, former manager of the eastern chemical sales division of Sharples Chemicals, Inc., Philadelphia, was appointed recently as general sales manager with headquarters in the company's Philadelphia office. He joined the firm in January, 1946, and was named eastern sales manager in March of that year. Previously he had been with the Barrett Division of Allied Chemical & Dye Corp., New York.

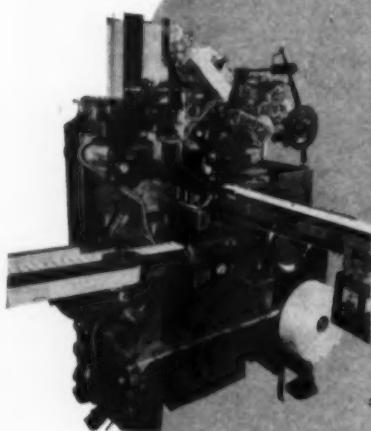
# 6 MACHINES IMPORTANT IN— SOAP MAKING



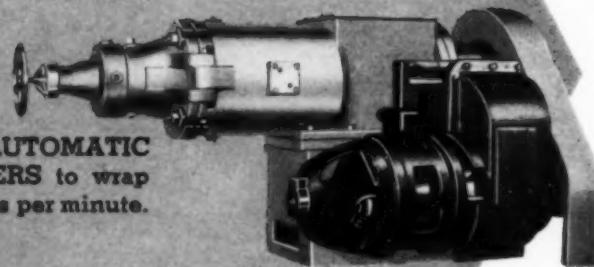
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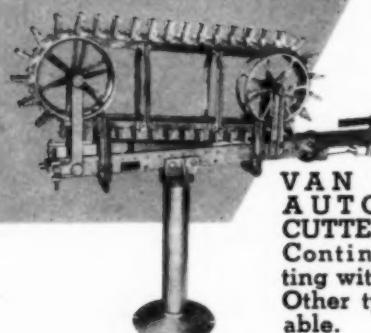
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# PRODUCTION SECTION

## Spray Drying of Detergents

**S**PRAY dried synthetic detergents for commercial and household use should be in the form of large uniform particles with sufficient mechanical strength to prevent breakdown in the package. In addition, they should be free flowing, be characterized by absence of lumping or tendency to lump on storage, and have the required bulk density. Furthermore, such products should be sneeze-free, have good color and odor, and adequate solubility in cold and hot water.

Spray dried synthetic detergents generally are of two types: fine wash products (light duty) for laundering wool, silk, rayon and nylon; and general cleaning products (heavy duty) used for washing painted surfaces, wood-work, cotton laundering, and general housecleaning. The unbuilt, high active base detergent products are also included in this latter class. The above products are all made by the hot spray process.

Spray dried products may be made either by hot spraying or spray cooling. The latter can be produced with regular spray drying equipment, using cold air in place of hot air. In spray cooling, only a small amount of water is evaporated, and the solid form is obtained by crystallization of the water with sodium carbonate. Spray cooled products have low active detergent content, are high in sodium carbonate and, therefore, are limited in application.

The atomization equipment of spray drying units is of three types: (1) spinning disc or centrifugal atomizer, (2) high pressure jet atomizer, or (3) two fluid nozzle atomizer. Products turned out by the first two units are

**Spray drying atomization equipment is of three types: spinning disc or centrifugal; high pressure jet, or two-fluid nozzle. The hot spray process is used for most synthetic detergents.**

hollow spherical bead particles, while the third type atomizer yields denser particles of irregular shape and size.

The spinning disc atomizer in common use is a flat, or bowl shaped, smooth disc in a horizontal plane, from which the feed flows as a continuous sheet. Variations of this unit are discs having a varying number of vanes, nozzles or apertures, from which the feed emerges as a number of streams. Inasmuch as the feed is thrown out toward the wall of the tower, an important factor in design is the diameter of the chamber, which should allow a maximum particle size without build up on the walls. The larger particles have greater momentum so that greater distance and more time are required to dry them. Larger particles are more acceptable in the household, so that plants with larger diameter spraying towers give a more acceptable product. The size and uniformity of the product depend upon the speed of the disc. Higher speeds give greater uniformity and finer particles, while lower speeds yield larger particles of less uniformity. An optimum speed is selected for a particular tower.

The spinning disc plants are of two varieties. In one, the overdriven plant, the air and feed inlets are at the top of the tower, and product-air flow is concurrent. In the underdriven plant, the disc and hot air inlets are at the bottom, so that flow is both con-

current and counter-current. In both cases, the product is removed at the bottom. Capacities of the overdriven plants are higher than of the underdriven type.

One of the important specifications of feed is the solids content, which has a marked effect on the finished product. Slurries of 50 to 70 per cent are in common use. Feed temperature depends on the stability and other properties of the product, and generally ranges between 50° and 100° C. High air inlet temperatures favor larger particle sizes, more complete drying and a maximum output; the upper limit however is set by the heat stability of the product and the fact that too high a temperature yields products with thin walls, which breakdown in handling and packaging. The overdriven plant generally uses air inlet temperatures of 250°-300° C., with corresponding outlet temperatures of 110°-180° C. Since inlet air hits the descending product in the underdriven plant, lower inlet temperatures (about 240° C.) and higher outlet temperatures (about 130° C.) are used.

One type of high pressure jet atomizer is similar to the spinning disc unit in that a single high pressure jet is used in place of the disc. Other jet atomizers are similar to soap spray drying towers, in which the jet is at the top and air inlet at the bottom so that air-feed flow is



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Equally important too, are the industrial applications of caustic soda. Today caustic soda is required for hundreds of products and processes, and the needs are constantly increasing. Established users are expanding and new users are constantly entering the picture.

Mathieson is already expanding its production to meet this increased demand and welcomes inquiries from those who might need future assistance in solving a

caustic soda supply problem. Mathieson Chemical Corporation, Mathieson Building, Baltimore 3, Maryland.

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countercurrent. This latter type of jet is preferred by many manufacturers for spray drying synthetic detergents since greater output is possible, and the finished product has a larger particle size with fewer fines.

The jets are directed vertically up or down (not toward the wall), so that larger particles may be produced with less risk of touching the walls before drying. Since flow is countercurrent, it permits the formation of agglomerates, resulting in better particle size, less dust and higher bulk density. Furthermore, the chances of scorching are minimized, since lower inlet air temperatures can be employed in countercurrent, as compared with parallel, flow. General air inlet temperature ranges from 150°-220°C, with corresponding air outlet temperatures of 80°-120°C.

The controlling factor for particle size and uniformity is the pressure at the jet. High pressures yield small, uniform, particles, while low jet pressures yield larger, less uniform particles. Optimum conditions of pressure and temperature may be determined for specific products and towers.

Two-fluid nozzle plants are used primarily for spray cooling with cold air. The feed and atomizing mechanism is less expensive than the spinning disc or jet atomizer. The two-fluid nozzle plant has a large capacity, requires little maintenance, and may be used to atomize extremely viscous fluids. Products spray dried by this unit have large particle size but poor uniformity. Synthetic detergents are not sprayed by this method because of irregular particles and the large amount of fines.

Whereas the jet and disc units are film forming atomizers, the two-fluid nozzle plant is filament or thread forming, so that particles are less likely to be hollow beads, and therefore will have greater density.

The plants may have parallel or countercurrent flow, and use one or more two-fluid nozzles. Once the optimum conditions for a dryer are determined, the plant may be controlled by inlet and outlet air tem-

peratures. An increase of outlet temperature would indicate a decrease in feed rate; conversely, a decrease in outlet temperature means an increase in feed, and a damp product.

In all three types of atomization plants, it is most economical to operate at as high an inlet and as

low an outlet temperature as possible. However, as was pointed out previously, these two temperatures are limited by the type of plant, the form and composition of the product. Report at Institute of Fuel, by M. W. Smith, through *Chemical Age* 64, No. 1654, 443-446 (1951).

## Soaps Vs. Synthetic Detergents

**P**RONOUNCED advantages of the synthetic detergents as compared with the carboxyl alkali soaps include better wetting power, a greater foaming and dispersive action and a greater ability to dissolve and emulsify fats. The light duty detergents are a neutral group of products containing 20 to 30 per cent active substances and are used as general household cleaners as well as for washing finer things. The heavy duty detergents have a certain alkalinity, a higher content of washing active substances, plus several organic compounds, and are used mainly for washing cellulose fibers and cotton.

Difficult fabrics, such as silk, wool, rayon, lace and nylon are cleaned readily with synthetic detergents. The albumen structure of the fibers, which is easily affected by alkalis, is not attacked by the synthetic detergents. Shrinkage is reduced to a minimum, and colors remain fast. The excessively degreasing substances, such as synthetic detergents based on sulphonated fatty alcohols, should not be used in washing wool which always contains a certain percentage of specific fat, which should not be removed when washing.

For heavily soiled cotton, synthetic detergents are not as effective in cleaning as are the ordinary soaps. One approach to this problem has been the addition of organic substances to the neutral synthetic products. These produce sufficient alkalinity to allow the detergents to develop their cleansing action in the most favorable pH range. Some of the substances used in this respect are the alkali carbonates, and various phosphates and metasilicates. The dirt bearing capacity of the

synthetic products, i.e., a certain protective colloid and peptizing property, may be obtained by using certain cellulose derivatives, such as carboxymethylcellulose or the cellulose sodium glycolate.

Physical requirements of a solid detergent product favor a bead structure, white color, and good water solubility. Suitable perfuming is also important, since some detergents may have an odor reminiscent of petroleum, which, of course, should be covered. *Alchimist* 4, No. 12, 299-313 (1950).

### Detergent Skin Effects

The action of synthetic detergents on human skin has generally been unfavorable, due to (1) a strong degreasing effect, (2) a certain affinity of the synthetic detergents for the keratin of the skin, so that the degreased keratin particles adsorb the detergents and (3) cause a skin irritation, which is attributed to all sulfonates. It is pointed out that the unfavorable effect of the synthetics cannot be overcome merely by superfatting the products or by greasing the hands after washing. Tests leading to these conclusions were based on washings with lathers of five and ten per cent, at a pH of 6 to 7. Increasing the pH to 9 or 10 by the addition of soda ash or caustic soda was found to be still more unfavorable.

The use of carboxymethyl cellulose with detergents was found to modify the irritating effect on the skin. For best results, adequate concentrations of cellulose ether are necessary. Concentrations of 2.5 to 3 per cent seemed likely to give optimum results, however with higher detergent concentrations, it is likely that the cellulose content must be increased

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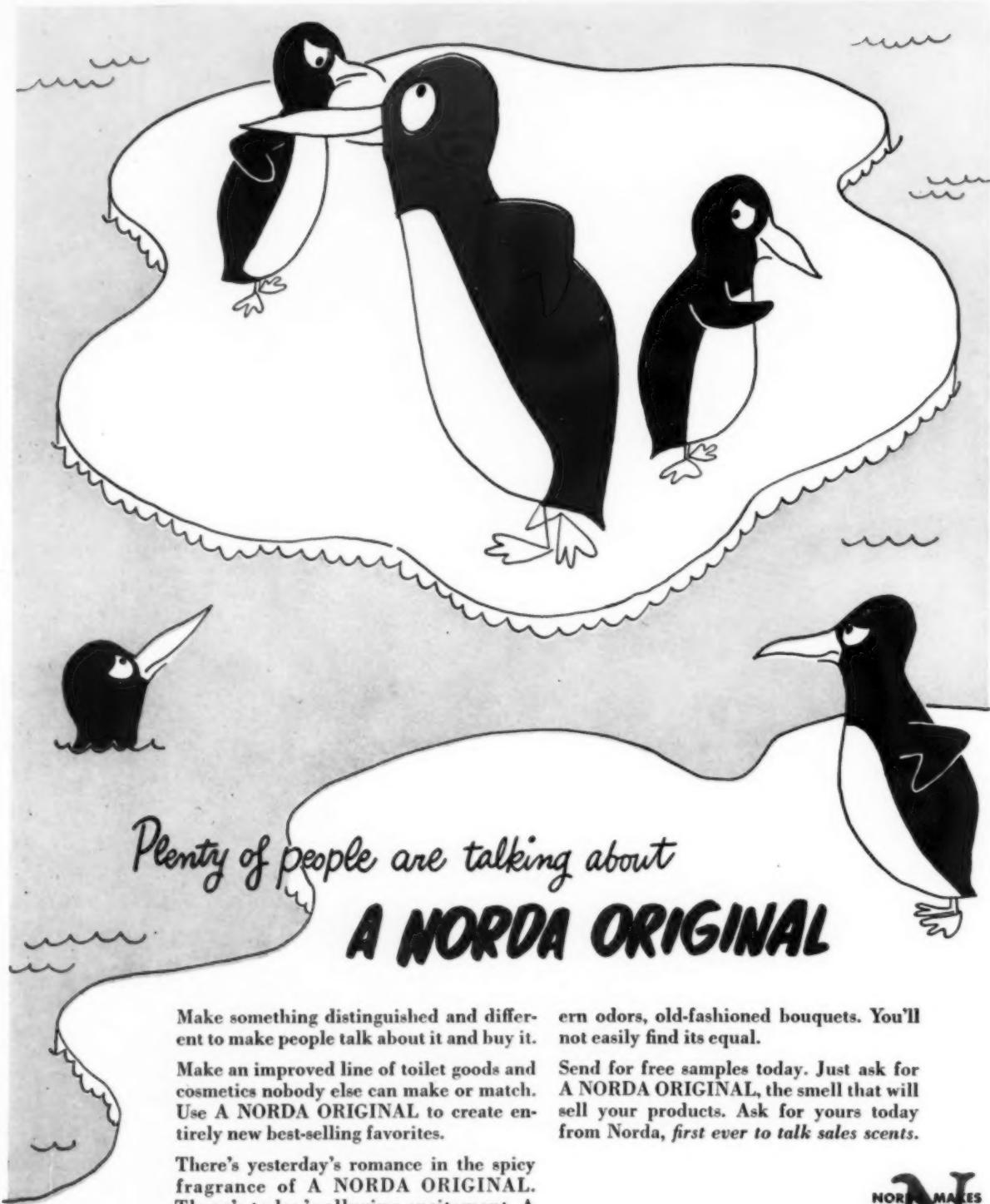
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also. It is to be noted that additions above two per cent have a deleterious effect on the lathering properties. R. Kuchinka, *Seifen-Ole Fette-Wachse through Soap & Perfumery Cosmetics* 24, No. 3, 260-261 (1951).

### Deodorization of Fats

An effective means of deodorizing fats and fatty oils is to subject them to high vacuum distillation (about 6-12 mm. absolute) for a short period, not exceeding 15 minutes. The fraction containing the greater part of odoriferous constituents of the fat is removed, and the fat subjected to vacuum-cum-steam deodorization to improve its blandness. It is claimed that the fat is deodorized more effectively by this process with less time and heat, due to hydrolysis of the fat by steam. English Pat. 605,148 through *Chem. Trade Journal* 128, No. 3326, 524 (1951).

### Soaps for Polymerization

Studies of emulsifying agents indicated that the polyunsaturated fatty components of tallow soap emulsifiers acted as retarders in the emulsion polymerization of synthetic rubber. Selective hydrogenation of the fat stock eliminates this difficulty. Still another factor affecting the polymerization properties of emulsifiers is contamination by nickel and other heavy metals. Prevention of contamination of emulsifying agents to be used in polymerizations is necessary. *J. A.O.C.S.* 28, No. 3, 85 (1951).

### Zirconyl Soaps

A composition for rendering textiles water repellent comprises an alkaline colloidal suspension of a zirconyl soap. The composition is prepared by adding an aqueous solution of a water soluble zirconyl or zirconium salt such as chloride, sulfate or nitrate to an aqueous solution of a carbonate or bicarbonate of an alkali metal. The zirconyl soap is formed as a colloidal suspension by mixing the combined alkaline solution with an aqueous solution of soluble soap. English Pat. 609,002 through *Chem. Trade Journal* 128, No. 3328, 648 (1951).

### Soaps in Dry Cleaning

In a three-year comparative study between actual dry cleaning plant operations and laboratory tests for detergency, results indicated that plant statistics do not correlate well with soil removal results as shown by soiled swatches, but that whiteness retention measurements were very significant.

Tests were made by dry cleaning garments soiled through actual wear. Paste type soaps and gel type soaps provided adequate whiteness retention. Liquid true soaps and synthetic detergents allowed considerable redeposition of soil. It was observed that the synthetic detergents might perform more efficiently if used in a higher concentration. G. P. Fulton, Subcommittee D-12 meeting of ASTM, March, 1951.

### Soaps as Solubilizers

Transparent dispersions of essential oils in water or dilute alcohol may be prepared by using soaps as solubilizing agents. Mixtures of eucalyptus oil with a 50 per cent solution of the ammonium soap of Turkey red oil (sulfonated castor oil) give transparent solutions when diluted with water in any proportion. Concentrated aqueous solutions containing up to 40 per cent eucalyptus oil were made with this soap. The triethanolamine soap of the castor oil fatty acids was found to be the best of several soaps tested for solubilizing citronella oil. Solubilization studies indicated that the best results were obtained when the oil was mixed with a concentrated soap before water was added. Dilute soap solutions tended to yield opaque emulsions. Analysis of these characteristics showed that solubilization depends on the formation of micelles, which does not occur until the soap reaches a certain concentration.

Concentrated soap mixtures of the following formula were used as solubilizing agents in preparing dispersions of citrus oils:

	grams
Sodium oleate, 80%	31.25
Tylose S, (methyl cellulose)	2.0
Citrus oil	5.0
Distilled water	61.75

Some of the non-ionic surface

active agents may be used as solubilizing agents for the essential oils. These have the advantage over soap in that they are more resistant to acids and salts in products such as astringent lotions and anti-perspirants. The fatty acid esters of the polyethylene glycols are used as commercial solubilizing agents. These include "Neutronyx 330," "PEG 42" (polyethylene glycol stearate), "Atlas G-2160" (polyoxyethylene propylene glycol monostearate) and "Nonisol 250" (polyethylene glycol oleate). In most cases, from three to six parts of solubilizer are required for one part of perfume oil. *Schimmel Briefs* No. 191, Feb. (1951).

### Fat and Oil Bleaching

Although the fine activated earth powders bleach more rapidly than coarse powdered activated earth, the coarser form is generally recommended for commercial practice. This recommendation is based on the saving in time owing to the free filtering properties of the coarser earth, less wear on the filtering plant, and the fact that the greater porosity of the filter cake means a smaller oil loss, as more oil is allowed to be blown or steamed out of the process.

In selecting conditions for quick bleaching of oils with freedom from color reversion, it was observed that there is no danger of reversion in any normal oil, particularly in *vacuo*, if a time limit of 60 to 90 minutes is not exceeded in the refinery. About one-half to one per cent activated earth is suggested for neutralized coconut oil treated at 85°C. for 20 to 30 minutes. Conditions suggested for other oils using standard trade name brands of activated earths are as follows:

Oil	Approx. Temp. per cent	Time °C.	min.
Cottonseed (neutralized)	1.3	85-90	30
Palm	2-7	95-125	60-90
Soybean (crude)	2-5	85-95	30-60
Tallow	2-5	80-105	30-60
Whale (hardened)	5-1	85	30-60

Amount of activated earth used varies with the efficiency or grade of the product; however, time and temperature are approximately the same. *Indian Soap J.* 26, No. 7, 189-192 (1951).



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## PRODUCTION CLINIC

By E. G. THOMSSEN, Ph.D.

**M**ANY a manufacturer has regretted that more thought and planning were not given to the original choice of a plant site. Selecting the wrong location for a plant can be very troublesome and costly. One reason why so many plant locations turn out badly is that most businesses have started in a small way and grown beyond all expectation. Factors influencing the choice of a manufacturing building include: cheap rental or purchase price; it was the only place available; the business originated in a certain town, or the success of the project was uncertain.

As companies grow, the general tendency is to build additions to the original building on adjoining vacant property or to acquire nearby buildings. This sort of growth results in patchwork layouts. Later, real problems can present themselves in the form of labor unrest, protests from local property holders, or inability to expand further. The opposition of property owners to plant expansion is particularly troublesome. Often property owners are justified in the resentment against further industrialization or the establishment of a new type of industry in a particular area. Objections are voiced to noise, especially after hours, odors, dust and the occupation of parking spaces in front of private homes. If property owners protest loudly enough and in sufficient number, local governing bodies are compelled to impose penalties or restrictions upon the offending plant. Sometimes, as a result of a plant being declared a nuisance, it has been necessary for firms to transfer their manufacturing operations elsewhere. This is particularly true of soap plants, with their obnoxious odors.

In setting up a plant these days more attention is given to such economic factors as taxes, freight and trucking rates, proximity to raw and

finishing materials, and the availability of adequate labor. In the chemical industry, particularly, the disposal of waste or by-products is very important. State conservation officials no



DR. THOMSEN

longer tolerate the pollution of streams. The promiscuous disposal of offensive waste on city dumps is *tabu* in most places. This problem is a very difficult one. The acquisition or use of isolated property, abandoned mines, private pools and lakes, and chemical treatment are among some of the means that have been employed to dispose of waste.

Just before this was written, we observed a new plant in which due consideration was not given to the disposal of large volumes of cooling water from a vacuum evaporator. Equipment was installed at a large outlay in a plant a mile from a river, because the plant was vacant and could be purchased cheaply. To run off their water a trench was dug to flow the water to the stream. All went well for a week or two. Then complaints came in from nearby property owners that the large flow of water was flooding and undermining the foundations of their houses and buildings. The plant is shut down until an adequate sewer, almost as costly as the original

building, is constructed. The money loss resulting from lack of foresight is great. While this is an unusual case, it illustrates the necessity of considering every detail most carefully in choosing the site of new plant installations.

Certain organizations are available the sole business of which is to advise manufacturers how and where to locate plants. We are told that consumption of manufactured goods in the U. S. has more than doubled in the last decade. While no one can predict accurately the trend of our industrial expansion in the next ten years, we know that we will have to depend more upon manufactured products and less upon naturally occurring ones. New sources of supply to compensate for the waste of others must be found. This means that more factories will be built. In view of the errors of past years, the location of new plants should be studied carefully. It is more economical in the long run to consult with an organization specializing in the location of plant sites than to depend entirely upon one's own judgment.

### Tinless Metal Cans

**T**HE use of tin in making cans has steadily decreased since the advent of World War II. Among the advances made in this regard, due to scarcity and high prices of tin, are the radical reduction of the thickness of tin coatings, the sealing of seams without solder, and the elimination of tin where it was used as a bonding agent to prevent corrosion. American Can Co., New York, has now devised a rapid, satisfactory method of soldering black plate, which is expected to result in a tinless plate that can be soldered with tinless solder. This development promises a peace of mind to can users who now pay high prices for cans in which tin is used.

### Bin Vibrator

**A** VIBRATOR to stop the trouble-some arching and plugging of bins, hoppers, chutes and screens is now available from Cleveland Vibrator Co., Cleveland. Six different sizes are available to move small or large quantities of powdered or granular materials. The vibrators are actuated by air. The

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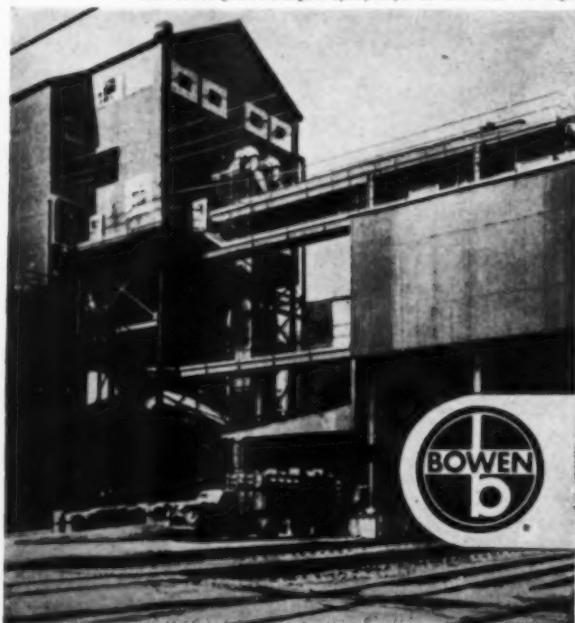
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**W**YANDOTTE Chemicals Corp., Wyandotte, Mich., is now offering its ethylene and propylene dichlorides as solvents and extractants. These find wide use in the formulation of fumigants, insecticides, cleansing agents and as extractants of essential oils. Samples and further information are gladly sent upon request by interested companies.

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#### Liquid Meters

**A**CCURATE, automatic liquid meters that are dependable because of positive electric shut offs, are made by Buffalo Meter Company, Buffalo, N. Y. These meters are engineered for a large variety of uses and are built of non-corrosive material if necessary. They are simple in construction to avoid troublesome measuring defects. Complete details are available upon request.

#### Box Type Pallet

**A** BOX type pallet, available from Ironbound Box & Lumber Co., Hillside, N. J., has a double bottom into which the forks of the truck may be easily inserted. The box is stoutly made from wooden strips with removable steel supports bolted to the corners. A range of sizes is available.

#### Powder Conveyor

**A** POWDER conveyor which, in many cases, may be installed at a minimum cost, is made by Fuller Co., Catasauqua, Pa. This conveyor, known as the Fuller-Kinyon system, is installed in any location which permits a pipeline to be run. Interlocking of several systems, makes possible the distribution of powdered materials to any

desired place from a remote point. The conveyor takes advantage of the fact that pulverized, dried materials when they are aerated flow under pressure through a pipe like a liquid. This system permits low maintenance costs with little supervising labor.

#### Lightweight, Cheap Respirator

**A**MERICAN Optical Co., Southbridge, Mass., markets a respirator which is approved by the Bureau of Mines. Among its desirable features are simple construction, easy breathing, lightness of weight, no obstruction of vision and ease in cleaning. It is known as the "AO Respirator" and is used by many plants making DDT and other insecticides.

#### "Washes Without Rinsing"

**W**HILE recently there has been some soft pedaling of advertising claims that synthetic detergents save time and labor without rinsing, we wonder if the full validity of these claims can be substantiated. Recently, we heard a group of women discussing "no-rinse" claims. The consensus was that such claims are misleading. We agree, for quite recently we noted our laundress was returning our white shirts with a brownish cast. Upon investigating the reason we found that the rinse water was being spared. Tests by certain laboratories have noted a definite loss of whiteness after a few cycles without rinsing. We are still not convinced that the additional rinsing operation is unnecessary.

#### New Packaging Machines

**A**MONG the wide assortment of packaging, wrapping and sealing equipment suitable for chemical specialties shown at the recent 20th National Packaging Exposition in Atlantic City, N. J., was a new and useful multiform wrapping machine made by Wrap-King Corp., West Springfield, Mass. Versatile in that it can wrap items of any shape, from para blocks to soap cakes, the machine can also handle products of various consistencies. It is fully automatic and can be changed over quickly. In addition, the firm has brought out a new automatic labeling machine to be used in connection with the new "Wrap-King."

#### Schimmel Index Available

Schimmel & Co., New York, has issued the *Schimmel Brief Index* covering all issues up to the end of 1950. The old index ended with the 1945 issues.

#### Ground Corn Cob Abrasive

Agri-Indus Mfg. Co., Camden, O., recently announced the availability of "Cocob," a dry-processed powder produced by grinding maize corn cobs. The material, which comes in mesh sizes of 10, 16 and 22, is suggested for use as an abrasive in certain types of soaps, and as an absorbent, drier, burner, polisher, filler and carrier. An information sheet on "Cocob" is available by writing the company in Camden or from Karr & Co., Huntington Bank Bldg., Columbus 15, O., representative of Agri-Indus.

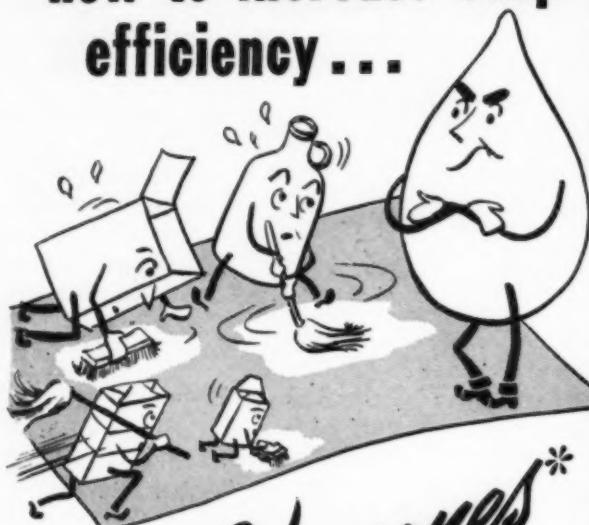
#### New Twin Shell Blender

The development of the "Twin Shell" blender by Patterson-Kelley Co., East Stroudsburg, Pa., for mixing such dry materials as sweeping compounds, insecticides, soap powders, detergents, etc., was announced recently. The blender consists of two equal-diameter cylindrical shells which are joined to form a "V." It rotates around a horizontal axis which passes through a geometrical center. A dust-tight discharge valve is located at the point of the "V." Standard access covers with swing bolts and dust-tight gaskets are located at the end of the two legs. Normally the unit is set in an upright position and is charged through either or both the access openings until it is approximately half full. Actually quantity varies with the materials being blended. The access openings are then closed and the machine rotated slowly. Blending time is determined by the types of materials.

The blender ranges in size from one to 250 cubic foot capacity. Based on materials of 50 pounds per cubic foot density, power requirements range from  $\frac{1}{4}$  to 20 horsepower. Other drives are available for heavier products.

A folder illustrating and describing the blender and its applications is available on request.

## how to increase soap efficiency ...



### THE Versenes\*

#### VERSENE\* GIVES MORE FOR LESS

One or more of the Versenes will increase the effective concentration of soap in your product, process or compound. These powerful organic chelating (complexing) agents give you exacting chemical control of cations in solution. They are known chemically as the sodium salts of ethylene diamine tetra acetic acid and other polyamino acids. Available in wet or dry form they are exceptionally stable under all conditions of temperature and pH.

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These are industry's most modern chemicals. They can provide you with the answer to many of your most perplexing problems. Properly added to your soap, product, process or compound they make less soap do more. Write Dept. C. Ask for Technical Bulletin No. 2 and send for sample.

\*Trade Mark



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FRAMINGHAM, MASSACHUSETTS

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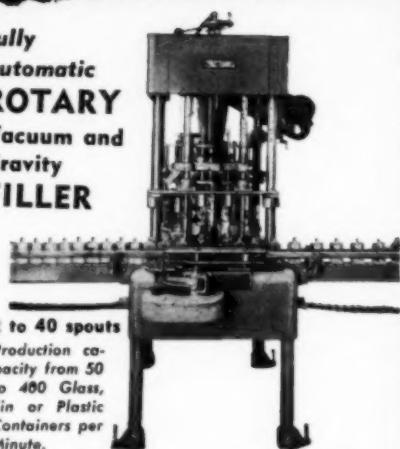
##### Providence Agent:

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W. Coast Agent: Griffin Chemical Co., San Francisco, Los Angeles  
Midwest Agent: Kraft Chemical Co., Inc., 917 W. 18th Street, Chicago  
Southern Agent: Chas. S. Tanner Co., Liberty Life Bldg., Charlotte, N.C.  
Associated Chemical Co. of Canada, 14 Darrell Ave., Toronto, Ontario

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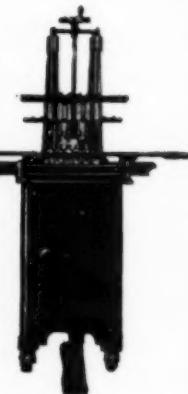


12 to 40 spouts  
Production capacity from 50 to 400 Glass, Tin or Plastic Containers per Minute.

Designed for quick changeover and thorough cleaning. Fills all types of foamy and still liquids — brines, vinegars, chemicals, drugs, perfumes, syrups and cosmetics. All sizes and shapes of containers.

A model for every need —  
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Particularly suited for companies with modest packaging requirements. Ballbearing casters permit moving the filler anywhere. Low in cost and simple to maintain. Ideal as an auxiliary filler.

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**mrm company, inc.**

191 Berry Street, Brooklyn 11, N. Y.

Manufacturers of a complete line of fully automatic and semi-automatic filling equipment and fully automatic labeling machines.

#### **G-4 for Mildewproofing**

A listing of about 37 government specifications in which G-4 (dichlorophene) may be used to meet mildew requirements is compiled in a recent issue of the *Sindar Reporter*, published by Sindar Corp., New York. Technical bulletin 48-3 describes the properties and value of G-4 for rot-proofing and mildewproofing, and lists the chemical and physical properties of this compound, its toxicity, method of application, and methods of quantitative determination of its presence in textiles.

#### **New Oils Chart Available**

Archer-Daniels-Midland Co., Minneapolis, has announced publication of a revised oils chart. This 24 page bulletin, in which more than 170 different materials are described and compared, includes such chemical products as linseed, soybean and fish oils, fatty acids, ADM's line of specialties, hydrogenated alcohols, glycerides, sperm oils, lecithin, etc. Detailed specifications and suggested uses are included in the new chart. Other tables deal with oils conversions, temperature conversion, relative viscosity values and bulking values. It also offers data on soaps, thinners, solvents, plasticizers, and driers.

#### **Booklet Released**

Buffalo Electro-Chemical Co., Inc., Buffalo, N. Y., has released a 21-page bulletin on peracetic acid and its use as a bactericide and fungicide. The booklet gives details on uses and applications of the acid in the food industry. It is known as Becco peracetic acid.

According to the company, peracetic acid is one of the newer bactericide-fungicides with novel features recommending its utilization as a germicidal wash for fruits and vegetables and for equipment sanitizing. The company claims that Becco peracetic acid is a low-cost, non-residual, freely soluble and powerful germicide, combining acetic acid with highly reactive oxygen in a stable solution. The solution is colorless and is readily diluted with water for formulation purposes. Dilute solutions are handled without special precautions and are

compatible with most detergents.

The company also states that Becco peracetic acid germicidal washes are of interest for (1) increasing holding life and decreasing spoilage encountered in holding; (2) decreasing mold and bacterial load entering the processing plant; and (3) sanitizing surfaces of fruits and vegetables prior to processing.

#### **New Namico Catalog**

Publication of a new 26-page catalog of its line of "Namico" soaps and cleaners was announced last month by National Milling and Chemical Co., Philadelphia. Showing the complete line of its cleaning products, the catalog offers suggested applications for each item, together with information on container sizes available, plus hints on selecting the right "Namico" product for a particular application. Copies of the new catalog may be obtained by writing the company at 4601 Nixon St., Philadelphia 27.

#### **Pesticide Handbook**

*Pesticide Handbook* by D. E. H. Frear. Published by the Pennsylvania State College and the University of Maine. 158 pages, 6 x 9 inches, flexible, glazed cover. Price, \$1.10.

Almost 4000 trade names of commercial insecticides, fungicides, herbicides, rodenticides, adjuvants, including wetting and spreading agents, diluents, repellents, and plant hormones are listed in this text, which is a continuation of "Pest Control Materials," published in 1949 and 1950. The trade names are listed alphabetically with information on the ingredients, uses and manufacture. Trade names of application machinery are included in the listing with an identification of the equipment and the manufacturer.

As in the previous editions, the second section of the book includes listings of the materials according to use and active ingredients. The third section is an alphabetical listing of manufacturers and their products.

The introduction to this handbook considers briefly the various types of pesticides, and their general uses, and includes a discussion on "How to Use this Book," with reference to the various abbreviations and listings.

#### **Du Pont Chemical Index**

An index of chemicals and allied products manufactured and sold by E. I. du Pont de Nemours & Co., Wilmington, Del., and its subsidiaries is compiled in a 260-page book, 8 x 10 inches, bound in a flexible, leatheroid, cover. The index is divided into four parts: (1) Departmental Section, containing descriptions of all du Pont products by operating units and subsidiaries. Descriptions of the products include information on use, active ingredients, shipping containers, and division of du Pont or subsidiary supplying the item. (2) Trade-Mark Section, containing an alphabetical listing of the du Pont trade-marks. Reference of the item to its description in section one is given. (3) Alphabetical Section, containing an alphabetical listing of du Pont products, with references to descriptions in section one. (4) Geographical Section, listing the location of offices, plants, and certain stock points. This section is classified according to the various states and foreign countries.

#### **New Koven Paste Mixer**

L. O. Koven & Brothers, Inc., Jersey City, N. J., have announced the development of a new, 60-gallon, stainless steel, heavy duty, paste mixer. The mixer is built with a rectangular mixing tank, having a half round bottom, with inside dimensions 51" long, 30" wide and 18 1/4" maximum depth. The tank is jacketed on the round bottom for 36" of its length for steam heating at 125 psi working pressure.

A full length, stainless steel, ribbon type spiral agitator, with inner and outer ribbons having opposite thrusts, assures thorough mixing action.

#### **New Fritzsche Price List**

Fritzsche Brothers, Inc., New York, recently issued a new and revised price list of their line of essential oils, aromatic chemicals and related perfuming materials and specialties. Prices shown in the new list are within the firm's ceilings as determined under the General Price Regulation, according to the company.

Amyl Cinnamic Aldehyde  
 Benzyl Acetate  
 Benzyl Alcohol  
 Benzyl Benzoate  
 Benzophenone  
 Diethyl Phthalate  
 Dimethyl Phthalate  
 Methyl Acetophenone  
 Nerolin  
 Phenylacetic Acid  
 Ethyl Phenylacetate  
 Methyl Phenylacetate  
 Phenyl Ethyl Acetate  
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## SINDAR CORPORATION ANNOUNCES LICENSING POLICY ON GERMICIDAL SOAP PATENT

Sindar patent No. 2,535,077 issued December 26, 1950, covers germicidal soaps containing 2,2'-dihydroxy halogenated diphenyl methanes such as **G-11® (brand of hexachlorophene)**.

We are proud to announce that this outstanding result of Sindar research has been awarded patent protection, and we are happy to share the benefit of the patent with the soap industry by granting licenses to soap manufacturers on a reasonable royalty basis, effective January 1, 1951.

Address inquiries to Sindar Corporation.

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*Corporation*

Industrial Aromatics and Chemicals

330 West 42nd Street, New York 18, New York

Branches: Philadelphia • Boston • Cincinnati • Detroit • Chicago • Seattle • Los Angeles • Toronto

# PRODUCTS AND PROCESSES

## Mechanic's Detergent

A composition especially useful in cleansing the hands of mineral lubricating oil sludges is prepared by the sulfation of a distillation fraction of a shale oil, boiling in the approximate range of 270-360°C., and adding a filler like kieselguhr, and a binding agent such as bentonite. A proportion of refined mineral or fatty oil may be added advantageously, particularly if the removal of tarry matter is involved. Brit. Pat. 646,765.

## Preservative Soap

A metallic soap for use as a preservative of canvas, tarpaulins, fish nets, jute and cotton goods, contains copper naphthenate and zinc naphthenate as its base. The soap has been tried with satisfactory results to combat the effects on timber of insects and boring beetles. *Chemical Products* 14, No. 3, 116 (1951).

## Liquid Soap Preparation

Laboratory samples of liquid soaps based on the following formulas gave very good results:

	<i>I</i> parts	<i>II</i> parts
Coconut oil	50	60
Castor oil	40	10
Sesame oil	10	10
Peanut oil	—	15
Resin (W/W)	—	5
Caustic potash (44° Bé)	50	47
Caustic soda (37° Bé)	—	3
Alcohol (95%)	30	40
Glycerin	10	10
Soda ash	5	—
Calgon (sodium hexametaphosphate)	—	5
Naphthol green	0.1	—
Perfume	4	8
Distilled water	260	350

After the usual method of manufacturing liquid soap, the authors advise storage of the liquid soap at a temperature of 10°C. for the first week and 0 to 5°C. for the subsequent period, which may vary from two to six weeks. It is pointed out that better soaps and special soaps are always filtered, as some turbidity is apt to develop later. Ekemann claims that

it is advantageous to mix a small quantity of soap with asbestos wool and then filter. In this way, a thin asbestos layer is deposited over the filter cloth and filtration is said to be very rapid. The first portion of the filtrates is returned to the filter to insure transparency. *Indian Soap Journal* 26, No. 7, 179-182 (1951).

## Foaming Cleansing Cream

A novel type of facial cleansing cream with foaming properties depends on a synthetic detergent for its cleansing action. An experimental formula which may be further developed is as follows:

	per cent
Cetyl alcohol	10
Beeswax	4
Paraffin wax	4
Mineral oil	20
Ammonium sulfate solution	15-30
Water to make	100

*Perf. & Essential Oil Review* 42, No. 2, 59 (1951).

## Quaternary Hair Products

Although the quaternaries are generally ineffective in cleansing the hair, they do function satisfactorily as hair conditioners, due to their property of adsorbing on the hair fibers and softening them. The quaternary hair conditioners are particularly suitable for use on hair damaged chemically by repeated permanents, bleaching, etc. A cream rinse may be made by adding glycerol monostearate to a quaternary salt solution. *Schimmel Briefs* No. 191, Feb. (1951).

## Floor Polishing Agent

A composition suggested as a polishing and impregnating agent for wood, inlaid linoleum, rubber, cork, stone, etc., contains: 30 parts of chlorinated rubber lacquer, 15 parts lacquer thinner, 10 parts synthetic resin lacquer, 10 parts carnauba wax, 5 parts paraffin, 10 parts American hard wax

and 20 parts Sangajol. The carnauba, paraffin, and American hard wax are melted together and Sangajol is added to the liquid mass and stirred thoroughly. Chlorinated rubber lacquer and synthetic resin lacquer are combined with the lacquer diluent, and added to the wax mixture with stirring, after the latter has cooled. Stirring is continued until a uniform paste is formed. Swiss Pat. 268,162 through *Chem. Abstracts*.

## Shampoo Thickener

Polyethylene Glycol 400 Di Stearate, a non-ionic thickening agent designed to minimize the reduction in foam or lather, is indicated for use in solid cream or clear liquid shampoos. A suggested formula for a solid cream shampoo is as follows:

	per cent
Sodium lauryl sulfate (Duponol W.A. Paste)	50
Magnesium stearate	1
Polyethylene Glycol 400 Di Stearate	3
Water	46

*Perf. & Essential Oil Review* 42, No. 2, 50 (1951).

## Industrial Hand Cleaner

A product designed for use in washing very dirty hands, and having a "cosmetic" effect on the skin, is made up as follows: mix 25 parts of cereal or legume flour, (containing ten to 14 per cent water, not less than seven per cent gluten, and not more than two to three per cent fat) with forty parts of alkaline silicates. Stir the mixture for 30 to 40 minutes, dry at 25° to 30° for eight to ten hours, then grind. Ital. Pat. 446,551 through *Chem. Abstracts*.

## Dyestuffs in Insecticides

The stability of insecticides towards the action of light can sometimes be improved by the addition of a dyestuff, particularly by one which absorbs high frequency radiation. Tests indicate that derris and pyrethrum can be protected against the action of light by treatment with chloramine yellow G. The application of the dyestuff to the insecticide may be made by means of a film forming solution. *Chemical Age* 64, No. 1654, 454 (1951).

COMPANION SEMI-AUTOMATIC MACHINES

*Clean and Fill 50 to 75 Gross of Containers Per Hour Day*



The U. S. SEMI-AUTOMATIC MODEL B-2 VACUUM FILLER

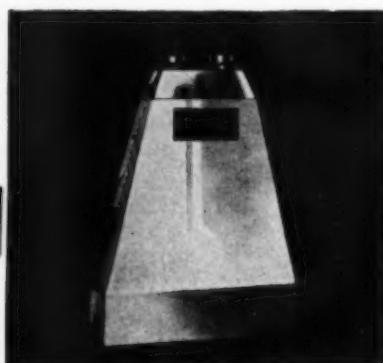
The most comprehensive filler for hand-fed operation. Interchangeable filling stems for any liquid or semi-liquid. Interchangeable parts for various size containers. Fills from any size storage container. Portable, motor equipped with cord and plug.

**B**OTH are 2-Tube Machines and handle two containers at a time. Both are fully automatic in operation except for placing and removing of containers (two at a time) requiring only ordinary skill for fast efficient operation.

Both machines are portable; can be used separately or in combination to clean and fill 50 to 75 gross a day. Write for the "Model B-2" and the "E-Z" Bulletins.

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THE E-Z TWO-TUBE CLEANER

Cleans 15 to 30 containers per minute by blasting with compressed air. Supplied portable with compressor and motor with cord and plug or with air filter for connection to your compressed air line.

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Offices: Charlotte, Cincinnati, New York, Philadelphia, Providence  
Plants: Charlotte, N. C. Cincinnati, Ohio Dighton, Mass.

**AHCO PRODUCTS**

NEW PATENTS

The information below is furnished by patent law offices of

LANCASTER, ALLWINE & ROMMEL

402 Bowen Building  
Washington 5, D. C.

The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. \$1.00 for Canada. They will be pleased to give you free preliminary patent advice.

**No. 2,542,697. Production of Nonionic Detergents from Oxidized Wax and Olefin Oxide**, patented by John A. Nevison, Media, and William K. Griesinger, Drexel Hill, Pa., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania. A method of producing a non-ionic detergent is described which comprises reacting a mixture containing oxygenated and unoxygenated hydrocarbon wax with sufficient ethylene oxide so that the oxygenated reaction product is water-soluble, treating the reaction mixture containing the oxygenated, water-soluble product and unoxygenated hydrocarbon wax with sufficient liquid paraffinic hydrocarbon to dissolve the unoxygenated hydrocarbon wax but not the oxygenated, water-soluble product, and separating the solution of liquid paraffinic hydrocarbon and unoxygenated wax from the oxygenated, water-soluble product.

**No. 2,537,021. Insect Repellents**, patented by Paul D. Bartlett, Weston, and Sidney D. Ross, North Adams, Mass., assignors to the United States of America as represented by the Secretary of the Army. An insect repellent composition is described comprising a solution of 1-furyl-2,2-dimethyl-1,3-propanediol in dimethyl phthalate.

**No. 2,542,385. Detergent Composition**, patented by Jackson J. Ayo, Elizabeth, and Ferdinand J. Gajewski, Linden, N. J., assignors to General Aniline & Film Corporation, New York, N. Y., a corporation of Delaware. A detergent composition in liquid form is described comprising from about 5 to about 25 per cent by

weight of sodium salt of oleyl methyl tauride from about 1.25 to about 12.5 per cent of diethyleneglycol mono butyl-ether, from about 0.5 to about 5 per cent of ethylene-bis-(imino-diacetic) acid, and from about 57.5 to about 93.25 per cent of water.

**No. 2,539,269. Insecticidal Composition**, patented by Thaddeus Parr, Philadelphia, Pa., assignor to The Pennsylvania Salt Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania. The patent describes an insecticide composition comprising a normally solid substantially non-water-soluble compound toxic to insects dissolved in an organic solvent for said compound, an emulsifier for said organic solvent other than a polyvinyl alcohol, and enough water soluble polyvinyl alcohol to substantially saturate said organic solvent.

**No. 2,540,376. Buffing or Polishing Composition**, patented by Theodore F. Onkey, Easton, Conn. The patent covers a liquid abrasive composition for metal adapted to be applied to a metal surface consisting of a dispersion of abrasive grits in water containing two to three per cent of a water-dispersible higher fatty acid mono-ester of an alcohol selected from the group consisting of the dihydric and trihydric alcohols, and glue amounting to about half the quantity of said higher fatty acid mono-ester.

**No. 2,534,1. Insecticidal Composition of Pyrethrins and the Methylen Ether of 3-4-Oxymethylene-Phenyl-1-Butyl-Glycol Synergist**, patented by Herman Wachs, Brooklyn, N. Y., assignor, by mesne assignments, to U. S. Industrial Chemicals, Inc., New York, N. Y., a corporation of Delaware. The patent describes an insecticidal composition the active insecticidal ingredients of which comprise pyrethrins and as a synergist therefor, the methylene ether of 3,4-oxymethylene-phenyl-1-butylglycol.

**No. 2,543,061. Hair-Dressing Composition**, patented by Theodore H. Rider, Hinsdale, and Solomon D. Gershon, Chicago, Ill., assignors to Lever Brothers Company, Cambridge, Mass., a corporation of Maine. The patent describes an oil and water composition suitable for use as a hair dressing comprising 7.6 to 50% by weight of oil and 0.25 to 0.41% of an oil-soluble partial fatty acid ester of a

polyhydroxy compound as emulsifier in an oil phase comprising a non-drying vegetable oil as the primary ingredient and the balance being substantially 0.26 to 0.43% of a cationic surface active quaternary ammonium compound in an aqueous phase comprising alcohol, said composition being readily emulsifiable upon agitation to provide a good meta-stable emulsion which readily separates upon standing to form an oil layer and an aqueous layer.

**No. 2,532,579. Pest Control Compositions Containing Beta-Acyl Acrylates**, patented by John C. Thomas, Wilmington, Del., assignor to E. I. du Pont de Nemours & Company, Wilmington, Del., a corporation of Delaware. The patent describes a pest control composition comprising in aqueous medium a wetting agent and, as an essential active ingredient therein, a beta-acyl acrylate having the formula  $\text{RCOCH}=\text{CHCOOR}'$  where R is a member of the group consisting of aryl radicals, chloroaryl radicals, and alkyl radicals containing from 1 to 6 carbon atoms and R' is a member of the group consisting of aryl radicals and alkyl radicals containing from 1 to 6 carbon atoms.

**No. 2,546,383. Method of Making a Rubberlike Cleaning Composition**, patented by Hans Blumberg, Peabody, Mass. A method of making a solid, dry, cleaner base, is covered comprising the steps of reacting approximately 100 parts of soya bean oil with 6-12 parts of hydrated lime, cooling to 50° F., adding approximately 15 parts of sulphur monochloride diluted with one-third of its volume of inert petroleum solvent, cooling to 50° F., adding approximately 16½ parts of sulphur monochloride diluted with ½ its volume of inert petroleum solvent, with vigorous stirring until the mass solidifies as a whole.

**No. 2,545,186. Nonaqueous Insecticidal Emulsions Containing Organic Esters of Phosphorous Acids**, patented by Wallace J. Yates and Frank B. Folckemer, Martinez, and William A. Simanton, Berkeley, Calif., assignors to Shell Development Company, San Francisco, Calif. A non-aqueous insecticidal composition is described comprising a light mineral spray oil, between about 0.1% and about 10% of a surface-active organic ester of a phosphorous acid dissolved in said oil, said ester having a ratio of carbon atoms to phosphorous atoms of at least 12, and a toxic concentration of an insecticidally active polyalkyl ester of a polyphosphorous acid having a ratio of carbon atoms to phosphorus atoms less than 12, said latter ester being substantially insoluble and predominantly undissolved in said oil but emulsified therein.

## WATERLESS HAND CLEANER MANUFACTURERS:

Why cripple sales appeal with undesirable odors of ammonia and mineral terps? ODOR-

MASQUE N gives your products a sales lift because it is pleasant smelling... completely neutralizes unpleasant odors.



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As early as 1800, English pharmacists discovered that soap made an excellent binder for medicaments in pill form... and served a double duty as a mild purgative.



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SOAP and SANITARY CHEMICALS

By John W. McCutcheon

**I**N THE March issue water softeners and their effect on soap and synthetic detergent usage were discussed. It was estimated that in an area having fairly hard water an average family of four wastes \$17.44 worth of soap a year. For \$23.89 or approximately \$2.00 per month the householder may purchase and operate his own softening equipment. The advantages of having soft water for home use outweigh monetary considerations. In March we considered only the automatic water softening unit which is regenerated periodically by the householder.

Another approach to water softening is through a servicing agency on a fixed monthly fee basis. A softening unit is installed at some convenient place in the basement of the client's home. The softener is connected up to the water supply lines. From the agency's knowledge of the water hardness in the area and the average household water consumption, a schedule is set up for the periodic replacement of the unit. At intervals the unit in use is returned to the servicing center and regenerated for another installation.

To investigate this type of water softening service more closely the writer took a few hours off on a recent trip to Cincinnati to visit the Northbrook Illinois Culligan Agency operated by G. T. Lalonde. Northbrook is a suburb about a half hour by bus from Cincinnati. The town water has a hardness of about 350 ppm.

Many points in operation of such a service are of interest to soap and detergent manufacturers. In the first place, there are probably a thousand such agencies in the hard water areas of the United States. The National Association of Soft Water Operators, with headquarters at 111 West

Washington Street, Chicago, knits these together. Most of these agencies operate under license from one of the manufacturers of the resin softening agent. The manufacturer assists the



MR. McCUTCHEON

small operator in advertising, besides assuring him of a supply of the necessary chemicals and tanks. Through this system the operator is also assured of a sufficiently large territory in which to work, although there is no guarantee that one of the several other large makers of water softening systems may not license a local competitor.

The charges and the amount of service are dependent on two factors: The hardness of the water and the amount of water used.

#### Commercial Units

Commercial installations require more frequent servicing than household units. For the latter the water softening equipment is connected to the hot water supply only, an arrangement that requires the least amount of service. In Northbrook, where the water has 20 grains of hardness, a water softener for a family of four has to be serviced every 14 days. If the installation is connected to the

hot water side only, it may be serviced only every 28 days.

One charge of resin will handle 30,000 grains of hardness, the equivalent of 1500 gallons of water. For a 28-day home service there is an installation charge of \$10.00, plus a monthly service charge of \$2.84. For a 14-day service, the charge runs to \$3.84 per month and for a 7-day service, \$5.93. If the figures for a home automatic unit are examined, it will be found that the monthly cost is not much higher. However, with the automatic unit, the home user must make a capital expenditure of \$225.00, and hook up the device in a home or apartment, he possibly does not own. In Northbrook, because of the extreme hardness, about nine out of ten installations are connected for hot water only.

What does the operator do to earn his fee? For one thing, he must have good records of his clients' requirements. He must provide the service regularly and on the days assigned. He must also know the usage of the client either from average data or by an examination of the meter records so that he can give correct advice as to the size and frequency of service. He must have at least one truck suitably equipped and enough customers to establish an economical route. The old tanks must be brought back to headquarters, recharged, sanitized and stored for re-use. Leaking tanks must be replaced, and at present prices this is no small item.

In the Norwood plant, used tanks are lined up on the washing line in batteries of 10. The resin is flushed completely from each tank into an upper reservoir. There it is washed free of loose dirt, regenerated with salt, flushed with a sanitizing agent and returned to the original tank ready for reuse. The water and chemicals used are automatically turned on and off. Such a modern and efficient plant cannot be run on a shoestring. The inventory of tanks alone was estimated at well over \$200,000 and the hazards of operation are numerous: a competitor may move in, or, the municipality, as in the case of Dayton, O., may install a municipal water softening unit. Perhaps even synthetics may take over. At least one large detergent



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and soap company is watching this development with interest.

\* \* \*

**P**LANNED expansion of synthetic glycerine appears headed for a minimum of 50 million pounds in 1951. This is becoming an increasingly large factor in the pricing of natural glycerine, production of which runs to about 200 million pounds a year. The quality of synthetic glycerine is very high and if it could pass two small tests would be suitable for pharmaceutical use. It is rumored that these tests may soon be modified, admitting the synthetic product.

To me it has always been an awesome thing to realize how the vegetation of millions of bygone years is pressed and squeezed into an unrecognizable mass of organic substance and then pumped back to the surface to be reconverted by the genius of man into the identical substances from which it was originally created. Some say that we cannot go on indefinitely pumping oil out of the ground, and that even now some fields are showing signs of exhaustion. Would it not seem stranger still to think that man could exhaust in fifty or a hundred or even five hundred years material that in nature has taken millions of years to prepare? At any rate, petroleum chemistry is a force to be reckoned with by fat and oil chemists in many diverse ways from fat synthesis, synthetic detergents to glycerine.

\* \* \*

#### **Hyman Issues Circular**

Julius Hyman & Co., Denver, recently issued a circular describing the control of grasshoppers with aldrin. Entitled "Control of Grasshoppers with the Insect Toxicant Aldrin," the circular, number 402-a, discusses dosage, mode of kill, residual kill, precautions and other points of interest. It is available upon request.

\* \* \*

#### **Triangle Acquires Bagby**

The merger by purchase of capital stock of Bagby & Co., Evanston, Ill., and Triangle Package Machinery Co., Chicago, was announced recently. Bagby & Co. is now operated as a wholly owned division of Triangle. Bagby has manufactured filling machines for more than 20 years.

MAY, 1951

#### **Manual on Surfactant Uses**

A new booklet on the use of surfactants in insecticides and herbicides was issued recently by Antara Products, division of General Dyestuff Corp., New York. Formulations for the following compounds are included: 2,4-D acid; 2,4-D amine salts; 2,4-D esters; isopropyl phenyl carbamate, potassium cyanate; chlordane, toxaphene, aldrin, dieldrin, lindane, DDT, dilan, copper naphthenate, CPR, dimethyl phthalate, dormant oil sprays, parathion, para-tolyl benzoate, phenyl mercuric acetate, and sulfur. Chemically, the surfactants used in the formulations are of the alkyl aryl polyethylene glycol ether types, the alkyl amide sulfonates, and the sulfonated fatty acids. A copy of the "Antara Compounder's Manual" may be obtained by written request on company letterhead to Antara Products Division, General Dyestuff Corp., 435 Hudson St., New York 14, N. Y.

\* \* \*

#### **OPD Price Record**

Issuance of the "OPD Record of Prices on Chemicals and Related Materials" was announced recently by Schnell Publishing Co., 30 Church St., New York 7. Compiled from more than one million price quotations reported in the weekly issues of *Oil, Paint & Drug Reporter* over the past four years, the new volume (No. 1A) contains 244 pages. It is 9 x 12 inches in size. Paper bound it sells for \$6.25. Its scope covers the price behavior of oils, fats and waxes; essential oils; aromatics; heavy chemicals.

\* \* \*

#### **Booklet on Lindane**

Publication of a new 32-page booklet, entitled "The Story of Lindane," was announced recently by California Spray - Chemical Corp., Richmond, Calif. The booklet stresses the importance of lindane and its potential uses wherever insect pests are to be controlled. Printed in two colors, it gives a brief background of the company, a short history of lindane and several pages are devoted to technical and research data developed on lindane. As a guide to formulators, sample labels, currently approved by the Government are reproduced. A

copy of the book, which was prepared especially for distribution to formulators using lindane in their products, is available on request by writing the company in Richmond, Calif.

#### **Lever Shifts Bensler**

E. Joseph Bensler, sales administration manager of the Pepsodent division of Lever Brothers Co., New York, was appointed recently as marketing service manager.

#### **Essential Oils**

(From Page 38)

value in the industry of synthetic aromatics, prices for the oil have been surprisingly low, leaving no adequate returns for the producers.

Under these conditions, operators have been forced to resort to the cheapest means of production, which is simply to exploit the vast stands of trees recklessly, with no thought of reforestation. A number of distilleries have had to cease operation because all trees growing in the nearby forests have been cut down, and the low prices paid for the oil do not permit haulage of the trunks from more distant points. A few distilleries have moved further inland, closer to new sources of timber, but this requires a considerable investment of capital, which at present oil prices cannot easily be amortized. If the present rate of exploitation is continued for another ten years, there will be no more *Ocotea* trees left in the State of Santa Catarina, and its sassafras oil industry will be reduced sharply, if not halted entirely.

At present only the trunks and heavy branches are used for distillation, the low prices paid for the wood not permitting extraction of the heavy roots from the ground. There are millions of stumps left in the soil, and large quantities of oil could be produced from these, if prices were sufficiently high to warrant the expense of pulling the stumps—a difficult task that requires machinery. If left in the ground too long the roots will rot and gradually become useless for distillation purposes.

(Part IV will appear in the next issue)

## Detergent Bars

(From Page 30)

attained among the various critical factors such as slush-resistance, foaming power, and fluidity of stock resulted from a slight increase in the "Ultrawet" concentration in the above formula by downward revision of the amounts of the other ingredients as in the following formula:

### Formula 9

86.0 Ultrawet KX . (44.4%)	(51.7%)
14.2 Ultrawet K . . . . .	( 7.3%)
35.0 Lecithin . . . . .	(18.1%)
29.3 Corn starch . . . . .	(15.1%)
29.3 Talc . . . . .	(15.1%)

By using the slurry form of the "Ultrawet KX", the need for adding water in the formulation of the stock prior to drying is eliminated and some additional economies can likewise be effected in view of the lower slurry costs. Thus the formula #9 above would be:

### Formula 10

246.0 Ultrawet 35KX Slurry .	(69.5%)
14.2 Ultrawet K . . . . .	( 4.0%)
35.0 Soya lecithin . . . . .	( 9.9%)
29.3 Corn starch . . . . .	( 8.3%)
29.3 Talc . . . . .	( 8.3%)

Considerably larger amounts (up to 75%) of "Ultrawet" can be incorporated in this fashion although serious stiffening of the stock due to the "Ultrawet" itself becomes apparent above the latter limit.

### Processing

AS indicated previously, the ingredients are most conveniently blended by mixing in a slurry. By using "Ultrawet" dry flake, it is possible to blend the ingredients in the absence of water by mixing in a heated plodder. However, it is difficult to "proportionate" the lecithin into the mixture to maintain proper fluidity and the extruded stock must undergo considerable recycling through the plodder to attain complete homogeneity.

In the preparation of slurries, e.g., formula 10, the "Ultrawet 35KX" furnishes sufficient water for the purpose, but where the dry "Ultrawet" is to be used, the ingredients are best slurred with about an equal weight of water or more depending upon the vigor of the agitation.

The slurry is fed to a drum drier

operating at 80 lbs. steam pressure, and on a laboratory drier equipped with 8 x 11" rolls, operating at 100 rpm. From 6-11 pounds can be produced per hour.

Formula #10 stock will emerge as a pliant solid which embrittles as it cools. The product has a moisture content of 0.5-1.5% and a pH slightly under 7.

The drum-dried solid is then fed to a plodder whose jacket is maintained at 80°F. or lower by circulation of cooling water, and the heating ring at the die orifice is adjusted to maintain the temperature of the extruded stock at ca. 125-145°F.

The importance of these conditions must be emphasized. For example, in anything but the smallest laboratory plodders, if no cooling water is applied to the jacket, the "Ultrawet" stock, which is markedly stiffer than soap, will develop sufficient heat from mechanical working to render it adhesive to the worm feed device. Moreover the stock at the center of the mass, being hotter and therefore more fluid, will extrude more rapidly than stocks in contact with the walls, giving rise to a skinning effect at the die orifice wherein a smooth central core extrudes through a blossoming skin as the latter creeps out around the edges of the die.

If the heating ring delivers too high a degree of heat, the stock will begin to adhere erratically to the edges of the die and develop pock-marks or other surface irregularities. Too low a temperature on the other hand will produce cracks and other irregularities indicative of incomplete coalescence of the stock into a homogeneous mass.

By maintaining adequate control over temperature and heat dissipation, the stock extrudes as a smooth plastic rod which can be easily sliced. Unlike soap, these "Ultrawet" bar stocks usually achieve their ultimate hardness within one to three hours, and it is advisable therefore to carry out the slicing and subsequent molding operations without undue delay. Ordinarily the extruded stock loses much of its plasticity within one half hour after leaving the plodder head.

We have found it convenient

to pre-plod the stock, extruding it through screens of 1/16 - 1/2" pore size to secure complete homogeneity and incorporate perfume. This extruded "spaghetti" is then fed to a final plodder equipped with the conventional die at its orifice.

The extruded stock can be pressed in an ordinary soap press without difficulty, although mold release fluids such as soap solution, brine, glycerol-brine or even mineral oil may be employed if mold-sticking becomes troublesome. The use of water-based lubricants will impart a slight surface tack to the bars which disappears after standing for from one to five hours.

### Molding Pressures

IN regard to the pressures employed in molding the bars we have found by use of a Carver press that as little as 200 psi. are adequate, particularly for stocks such as #5, 8 and 10, and in no case are pressures in excess of 1000 psi necessary or desirable. We have arbitrarily adopted a pressure of ca. 500 psi (i.e., about 2000 lbs. ram pressure on a mold of 4 sq. in. cross section) in our laboratory experiments since some of the "blanks", e.g., mixtures of "Ultrawet" and small amounts of lecithin, require pressures in this neighborhood to insure coalescence of the extruded stock, which from our small plodder (1/2 x 1 1/4" die orifice) is inadequate to fill the standard soap molds unless coiled about itself for several turns. With full scale equipment where the plodder delivers a rod of sufficient cross-section to fill the mold, pressures such as are encountered in an ordinary foot-actuated soap press have proved entirely adequate.

The soap-like gloss imparted to the finished bar seems to be a function of the pressure applied during molding.

### Summary

AN all-synthetic detergent milled toilet bar has been developed from a formula based on "Ultrawet" alkylaryl sulfonate. The finished product contains about 50% detergent together with soya lecithin as a de-tackifier, corn starch for hardening properties and talc to provide slush

(Turn to Page 135)

# SANITARY PRODUCTS

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<b>LINSEED</b>											
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SM-500 . . .	X	X	X	X	X	X	X	X			
SM-600 . . .	X	X	X	X	X	X	X	X			
Essential Unsaturated Free Fatty Acids . . .											X
<b>SOYA</b>											
Water White . . .	X	X	X								
Regular . . .	X	X	X	X	X	X	X	X			
RO-4 . . .	X	X	X	X	X	X	X	X			
RO-10 . . .	X	X	X	X	X	X	X	X			
RO-11S . . .	X	X	X	X	X	X	X	X			
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RO-8 . . .	X	X	X	X	X	X	X	X			
<b>CORN-SOYA</b> Double- Distilled . . .				X		X	X	X			
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**DRUGS & COSMETICS** — Cream-type lotions owe their existence to synthetic emulsifiers; synthetics are especially useful when lotions contain fruit juices, require acid-stable additives. Shampoos use these materials, as do many pharmaceutical products.

**FOODS** — Sandless spinach is obtained by new wetting agents that make it easier to remove dirt. Also used for washing fruits free of insecticides. Still under experiment is use in fruit-peeling, where synthetic materials are combined with alkalis to

produce a compound that lifts off skins, removes a minimum of fruit.

**LEATHER** — Surface-active agents aid in pickling, tanning, and fat-liquoring, greatly reduce wetting time for dried hides and skins by dispersing protein compounds and aiding penetration of liquids. They help in grease removal, permit acid scouring of fleeces.

**LUBRICATION** — In lubricants, the new synthetics act as pour-point depressants, emulsifiers, wetting agents. They help in wire drawing, stamping, and rolling of metals. Where cleaning as well as lubrication is necessary, a single synthetic may do the work of two other compounds.

**METAL CLEANING** — Almost every type of metal cleaning can use surface-active agents. They reduce cleaning time and concentration of alkali required, prevent formation of scum, assure better contact between metal and metal-treatment solutions used in later operations.

**METAL WORKING** — Emulsifiers improve cutting and quenching oils; wetting agents act as buffing assistants, promote spreading of soldering fluxes. Some go into wire drawing and metal rolling lubricants.

**PAINTS, DYES & INKS** — Wetting agents aid in grinding, facilitate pigment dispersion, reduce viscosity, promote penetration of ink into paper, spreading of paint on surfaces. They also help in paint, dye and ink removal where their action is similar to detergency (cleaning).

**PAPER** — Synthetic detergents and wetting agents are used in conditioning and scouring felts, as pitch-dispersing agents, as dye-levelers. They are also used to increase flexibility and absorbency of paper towels and blotters.

**PETROLEUM** — Hydrochloric-acid solutions used to reopen oil wells (by dissolving limestone which blocks oil flow) penetrate better, act faster, when surface-active agents are added. Petroleum industry can also use them as de-emulsifiers, poly-

merization agents, lubricants, emulsifiers.

**PLASTICS** — Synthetics promote penetration of impregnating compounds. As an ingredient of plastic-resin adhesives, they increase stability and promote bonding action. In addition, they act as mold lubricants and assure more uniform dispersion of fillers and pigments.

**POLISHES & WAXES** — As in cosmetics, cream-type furniture, floor, automobile and shoe polishes (oil in water emulsions) owe much of their growth to synthetic emulsifiers. In materials like these, synthetics make up only 5 to 10% of compound, but have big effect on performance.

**RUBBER** — Wetting agents prevent adhesion in milling operations, help insure uniform dispersion of carbon black and other fillers, improve penetration and spreading of coating and impregnation compounds, help stabilize latex, are foaming agents for sponge rubber.

**TEXTILES** — Surface-active agents follow textiles from the carding room all the way to the laundry. In spinning they're emulsifiers, antistatic additives, spreading agents. They help in sizing, scouring, dyeing, finishing and have many other uses.

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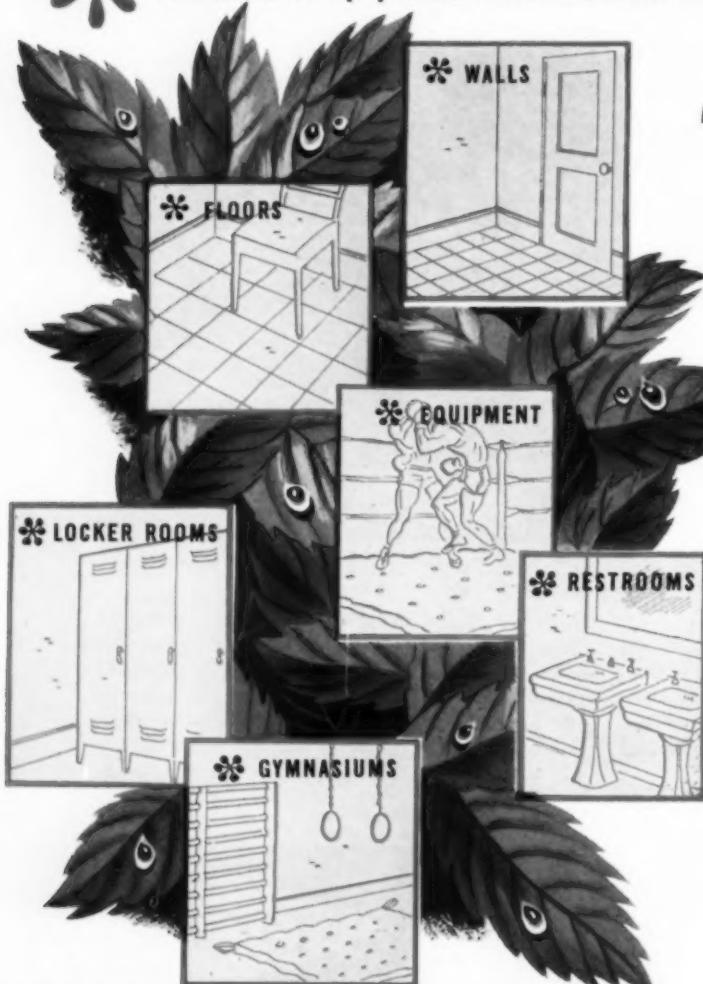
# MINTENE

*The original Mint Disinfectant*  
STILL THE LEADER BECAUSE  
**no phenolic after-smell**

MINTENE DISINFECTS AND DEODORIZES IN ONE APPLICATION



Floors, Walls, Equipment, Restrooms, Locker Rooms, Gymnasiums, etc., etc.



AVAILABLE IN ALL STANDARD SIZE CONTAINERS

*Hysan* PRODUCTS CO. 932 W. 38th Place, Chicago, Illinois

Visit us at the N.S.S.A. Convention at Cleveland  
June 3-6. Booth No. 112-113

Everybody likes our Mintene disinfectant because it doesn't start in with a mint aroma and wind up with a phenolic after-smell. Mintene is always fragrant, always delightful . . . never gives off a disinfectant odor.

When we first formulated Mintene—in the early '30's—we sought a flavor that folks wouldn't tire of. It seemed to us that a combination of mint fragrances including U.S.P. oils of peppermint and spearmint would fill the bill, since the public favored these fragrances day in and day out in their chewing gums.

And today Mintene—"cool and refreshing as a Mint Julep"—is the outstanding leader in its field.

It is, of course, as powerful and safe as it is fragrant—even killing the resistant organisms that cause athlete's foot. (Incidentally, Mintene makes a most refreshing prophylactic foot bath.)

It mixes with water—one gallon to 100 gallons—to make a milky, stable solution of extra disinfectant-deodorant potency entirely safe to use.

**ARMOUR***Chemical Division*

Fatty Acids  
Long-Chain Fatty Acid Derivatives  
Industrial Oils

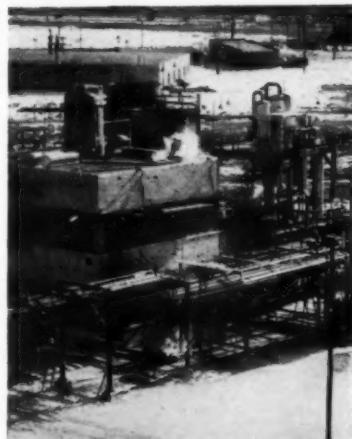
## Low-Temperature Solvent Crystallized Oleic Acid

Another new product has been added to Armour's line of fatty acids. Already the manufacturer of the most complete line of high-purity distilled fatty acids that can be found anywhere, the Armour Chemical Division now offers low-temperature solvent crystallized oleic acid.

This exclusive process offers users of oleic acid a product that has advantages not found in ordinary distilled or pressed products. The extremely low temperatures employed guarantee a substantially lower saturated acid content than conventional types of oleic acid. In addition, solvent crystallized oleic acids are ester-free materials since the solvent used is not reactive with fatty acids. This new product is characterized by bland odor and has excellent heat stability.

Armour's low-titer White Oleic Acid meets U. S. Pharmacopeia specifications and is recommended for those uses that require a light color as well as a low titer. For applications that require a low titer but not a very light color, low-titer Distilled Red Oil is recommended.

White Oleic Acid		(Low Titer)	
		Min.	Max.
Titer	—	5°C	
Iodine No. (Wijs)	90	95	
Acid Value	195	201	
Saponification Value	195	201	
Unsaponifiable	—	2%	
Color (Lovibond 5½" tubes)	—	1.5R-15Y	



Crystallization Unit at Armour's McCook Plant

### Distilled Red Oil (Low Titer)

	Min.	Max.
Titer	—	5°C
Iodine No. (Wijs)	90	95
Acid Value	193	200
Saponification Value	193	200
Unsaponifiable	—	3%
Color (Lovibond 1½" tubes)	4.0R-40Y	

Armour's Oleic Acids are available in 55-gallon drums and aluminum tank cars. Write today for samples and prices.

## Cationic Emulsifiers for Insecticides

Many industrial emulsion applications utilize the special properties of cationic emulsions. Because these emulsions are made with cationic active emulsifiers, their oil phases can be exhausted on many types of surfaces. In applying oily materials to surfaces by means of emulsions, greater and more uniform pickup and better adherence of the oil is obtained when the emulsion is cationic.

Arquad 2C (oil-soluble quaternary ammonium compound) is an excellent emulsifier and strongly cationic. However, to insure maximum hard water stability the presence of an Ethofat (non-ionic) is also used in the concentrate.

Demand for these chemicals has been particularly heavy and we regret that we are not always able to meet this demand. However, we expect this situation will

improve soon. In the meantime, your experimental work with these chemicals will permit their earlier use in your products.

The following are suggested formulas for effective cationic insecticide emulsions:

#### Formula No. 1

65% Toxaphene  
25% Xylol or Kerosene  
5% Arquad 2C  
5% Ethofat 142/20

#### Formula No. 2

45% Chlordane  
50% Kerosene  
2.5% Arquad 2C  
2.5% Ethofat 142/20

Write for further information or samples.

## Use of Fatty Acids in Insecticides, Fungicides and Disinfectants

Fatty acids are widely used in preparing spray emulsions for insecticides, fungicides and disinfectants. A soluble oil base is prepared in which the active ingredients of the finished spray are dispersed. Before application, this base is diluted with water.

The emulsifying action in these oil solutions is brought about by the presence of soaps, sulfonated oils, etc. Soda, potash, or triethanolamine are the preferred saponification agents for making these soaps. Generally these soaps are formed "in situ" by the saponification of vegetable fatty acids, fish oil fatty acids, oleic acids, etc., with the desired alkali or alkaline-like material.

Whenever practical the use of emulsions for insecticides, disinfectants, etc., is the most economical method to employ, since any desired dilution with water may be obtained. It is also possible to control the emulsion stability so that either quick breaking or stable emulsions result, thus controlling the release of the active ingredient after application. For these emulsions the Armour Chemical Division recommends Red Oils and Oleic Acids.

FREE INFORMATIVE BOOKLET — Write for the concise detailed booklet, "The Selection and Use of Fatty Acids" which indicates how various products can be improved through the use of fatty acids and their derivatives.

Applications discussed include: protective coatings, water-soluble soaps, cosmetics and toiletries, textiles, waxes and polishes, lubricants, synthetic detergents, synthetic resins, and rubber.

### Mail this Coupon

Please send additional information on

• \_\_\_\_\_

• \_\_\_\_\_

Name \_\_\_\_\_ Title \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

**ARMOUR Chemical Division**

Armour and Company  
1355 W. 31st St., Chicago 9, Ill.

when it  
smells better...

it sells  
better!



use Felton

AEROSONES

IT MUST ALSO SMELL GOOD!

It's a simple problem to smell when you're using a spray of Aerossone. Aerossone is a fast and ready-to-use aerosol insecticide and deodorant. It's the first aerosol ever to be sold in a pressure-sealed can. It's the country's best-seller. You will not find any other aerosol insecticide or deodorant like Felton products.



AROMATICS - PERFUME BASE - ESSENTIAL OILS

**FELTON** CHEMICAL COMPANY, INC.

FACTORY: BROOKLYN, N.Y. • LOS ANGELES, CALIF. • NEW YORK, N.Y. • PARIS, FRANCE  
SALES OFFICES: ATLANTA • BOSTON • CHICAGO • CLEVELAND • LOS ANGELES • ST. LOUIS  
TORONTO • MONTREAL  
SHIPPING: CARRIER IN PRINCIPAL CITIES

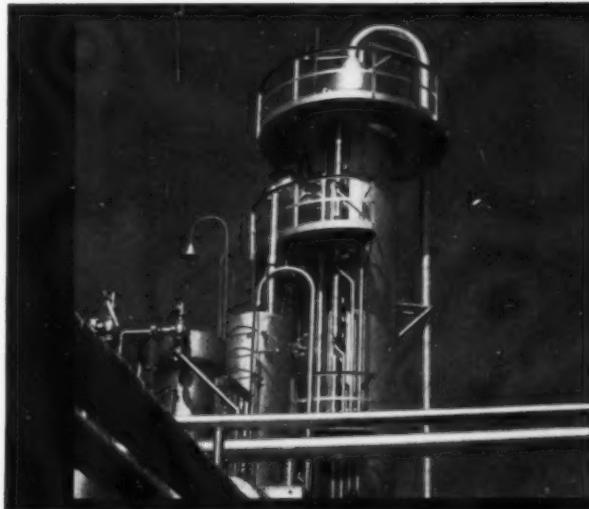


**KEREX**  
R E - O D O R A N T S

First choice for pleasantly per-  
fuming bulk and hand spray  
insecticides at a cost of...

**LESS THAN 2¢ PER GAL.**

# YOUR BEST BUY IN MICROCRYSTALLINE WAX



The specifications of Petrolite Crown Waxes are unsurpassed in the microcrystalline and emulsifiable wax field. Not only are these waxes of superior physical and chemical specifications, but they are refined to the highest possible purity.

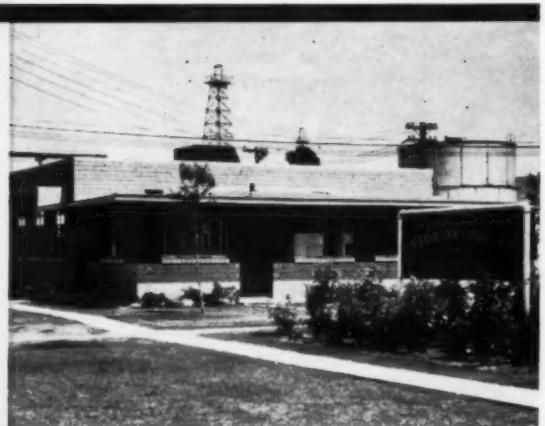
## SPECIFICATIONS:

Petrolite CROWN	Melting Point °F	Pen. with 100 gms.	Color N.P.A.	Acid Number	Sapon. Number
200	190/195	10 max.	Brown	Nil	Nil
500	190/195	10 max.	2 to 2½	Nil	Nil
700	190/195	5 max.	2 to 2½	Nil	Nil
1035	195/200	2 max.	2 to 2½	Nil	Nil

\* EMULSIFIABLE WAXES

Petrolite microcrystalline and emulsifiable waxes are manufactured only in the Petrolite refinery — a wax refinery designed to produce the finest microcrystalline waxes obtainable. Petrolite waxes are manufactured objectives, not by-products or blends.

Petrolite carries on a continuing research program, devoted only to the improvement and development of better microcrystalline waxes and problems relative to their industrial applications.



## PETROLITE WAX

PETROLITE CORPORATION, LTD.

### WAX DIVISION

30 Broad Street, New York 4, N. Y.

Refinery: Box 390, Kilgore, Texas

WY 51-2

MAY, 1951

93

# "I can recommend

# BEAMAX

# to anyone"

Here are excerpts from an unsolicited testimonial one of our representatives received from the Southern Inn Restaurant, Lexington, Virginia:

"About a year ago you sold us some BEAMAX — and it proved to be the best floor wax we ever used. I can recommend BEAMAX to anyone — no matter what kind of floor they put it on.

We put it on our floor as thin as possible with regular wax applicators and let it dry overnight. In the morning the floor is perfectly beautiful and has a nice sheen to it. It is not slippery for the waitresses and they have remarked on it. Every night we buff the floor and it looks like it has been waxed all over again.

We found that we can save money by using your wax as we don't have to wax as often. *It certainly is a good wax.*"

These are the salient features of BEAMAX. We merely add that it is water resistant when dry and will not solidify in storage. It is approved by the Underwriters' Laboratories.

# BEAMAX

LIQUID WAX

Dries to a Lustre

THE DAVIES-YOUNG SOAP COMPANY · Box 995 · Dayton 1, Ohio

Please send free sample of BEAMAX and full instructions for its use.

SSC-551

NAME..... ADDRESS.....

CITY..... STATE.....

## For Your Compounds and Formulations

For Your Compounds  
and Formulations

# The Best is Cheapest

in the long run!

**Use only the original quaternary ammonium germicide**

GENUINE

# GENUINE Rockay

Reg. U. S. Pat. Off. and Canada

GRAM

## **SANITIZING AGENT THE GERMICIDE OF 1,000 USES**

# THE GERMICIDE OF 1,000 USES

Quaternaries are being used more and more as germicides and fungicides in widely diversified fields:



Sample and  
literature on request.

## FOR YOUR PROTECTION

Look for our laboratory  
Control Number

*In proper dilutions ROCCAL IS:*

**POTENT TASTELESS  
STABLE ODORLESS  
NON-POISONOUS NON-CORROSIVE  
NON-IRRITATING TO SKIN**

**NOW OFFERED  
TO MANUFACTURERS IN  
50% CONCENTRATION**

# *Sterwin Chemicals, Inc.*

**Distributor of the products formerly sold by Special Markets —  
Industrial Division of Winthrop-Stearns Inc., and Vanillin Division  
of General Drug Company**

1450 BROADWAY, NEW YORK 18, N. Y.

MAY, 1951

95

*For over 36 years,  
the industry's leaders  
have been members of*

**CHEMICAL  
SPECIALTIES  
MANUFACTURERS  
ASSOCIATION, INC.**



LEADING manufacturers in the fields of floor waxes and other floor finishes, disinfectants, sanitizers, soap and detergent specialties, household insecticides and moth products, aerosol specialties of all types, and allied chemical specialties are members of CSMA.

Large and small, old and new, these leading firms have comprised the membership of CSMA (formerly National Assn. of Insecticide & Disinfectant Manufacturers) for over 36 years.

The newly expanded activities of CSMA may have interesting advantages for your company. Dues are moderate; services and contacts valuable. If we can give you further information about membership, we shall be glad to do so.

**CHEMICAL SPECIALTIES  
MANUFACTURERS ASSOCIATION, INC.**

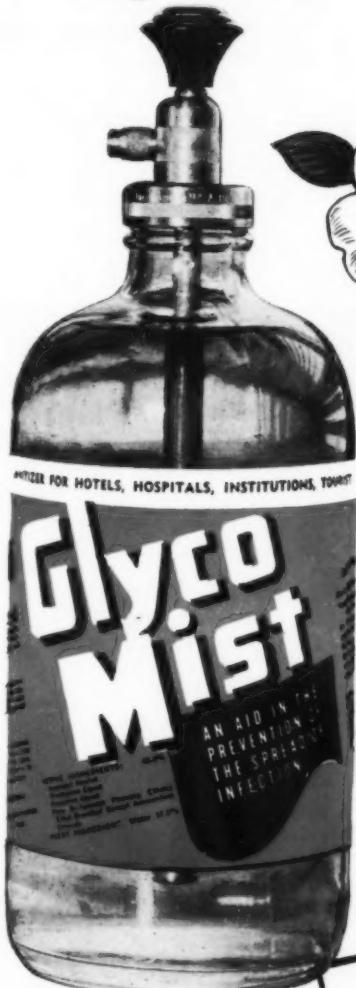
110 East 42nd Street

New York 17, N. Y.

L. J. Oppenheimer, President

H. W. Hamilton, Secretary

Like Apple Blossom  
Fragrance?...Yes...



...but-M-M-M That Heavenly  
**Glyco-Mist!**

THE NEW TRIETHYLENE-GLYCOL DISINFECTANT-SANITIZER

So help us; it's th' truth! the fragrant aroma of GLYCO-MIST even out-shines the natural floral odor of apple blossoms in bloom! and afterall, what is it that sells a deodorant?—the first thing it is judged by? fragrance of odor, and believe us—GLYCO-MIST has a fragrance of odor unsurpassed by any other spray deodorant ever compounded!

and the particular distillation of apple blossoms used in GLYCO-MIST is especially designed to do just one thing—*impart a delightful magic-like fragrance to the atmosphere*—a fragrance that remains until the deodorizing chemicals in GLYCO-MIST have completely eliminated all foul odors—then the delicate scent of apple blossoms gradually disappears also leaving the air “fresh as a spring breeze coming in over the apple orchards in the country”.

that's why GLYCO-MIST is by far the largest selling spray deodorant on the market today—why consumers continue to buy it again and again and again!

GLYCO-MIST is sold in the first place because of its delightful fragrance—but it remains sold—and sells again and again—*because it does everything claimed for it and then some in the way of deodorizing, sanitizing and disinfecting!*

your customers will love to use GLYCO-MIST—all people like to use nice things.

**1**  
**DISINFECTING:**  
GLYCO-MIST actually destroys disease-producing bacteria and virus on contact. it's a nice disinfectant—a pleasant one to use.

**2**  
**MOLDY ODORS:**  
GLYCO-MIST destroys mold and mildew odors and when applied properly, will prevent mold and mildew formation. again, it's nice to use.

**4**  
**Deodorant PLUS:**  
GLYCO-MIST contains a marvelous compound that completely destroys organic odors in a matter of seconds—then there is nothing but the fragrance of fresh-blooming apple blossoms.

**3**  
**AIR SANITIZING:**  
No product ever developed is so pleasant to use for deodorizing the atmosphere, and at the same time eliminates air-borne bacteria and virus in large numbers.

MAIL THIS  
COUPON TODAY



JAMES VARLEY & SONS, INC.

1200 Switzer Ave., St. Louis 15, Mo.  
please rush me a trial 8-oz. bottle of GLYCO-MIST with a free plastic sprayer. also send prices and full information.

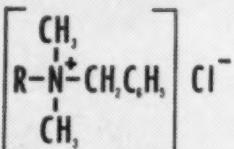
Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

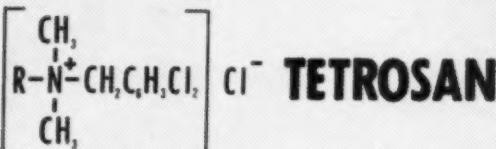
City \_\_\_\_\_ State \_\_\_\_\_

# ONYX QUATS are SAFE!



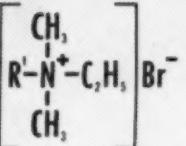
BTC\*

The most widely used cationic bactericide and deodorant. Sold in 50% aqueous solution to disinfectant and germicide manufacturers for dilution and/or incorporation in their own products.



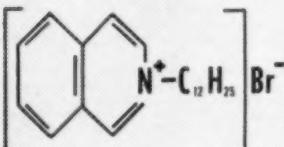
TETROSAN

In extensive use as a disinfecting, deodorizing and preventive antiseptic in veterinary and live-stock medicines. Used also in pharmaceuticals for topical applications. Sold in 60% aqueous solution. A mixture of alkyl dimethyl 3,4 dichlorobenzyl ammonium chloride and alkenyl dimethyl ethyl ammonium bromide.



ONYXIDE\*

The most effective algaecide now available. In wide use in swimming pools, cooling water, air conditioning systems, etc. Sold as a 75% concentrate in isopropanol or propylene glycol.



ISOTHAN  
Q15\*

An excellent fungicide. Widely used in the formulation of compounds for use in the control of athlete's foot and dandruff. Sold in 20% aqueous solution.

\*Trade Mark Reg. U.S. Pat. Off.



ONYX OIL & CHEMICAL COMPANY  
INDUSTRIAL DIVISION

186 WARREN ST., JERSEY CITY 2, N. J.

CHICAGO • BOSTON • CHARLOTTE • ATLANTA

In Canada: Onyx Oil & Chemical Co., Ltd., Montreal, Toronto, St. Johns, Que.

For Export: Onyx International, Jersey City 2, N. J.

## Because They've Been Tested for Toxicity!!

It was not enough for us to know that, theoretically, quaternary ammonium salts are non-toxic at the use-dilutions recommended for sanitization purposes.

We undertook specific, time-consuming and costly tests to prove, beyond any doubt, that Onyx Quaternaries could be used with complete confidence in their harmlessness. These tests and the conclusions drawn from them are outlined briefly below.

When you use any one of these Onyx Quats, you can not only be sure that they are safe, but that their uniformity and keeping qualities insure effective sanitization at every recommended dilution.

### Test Data

These four Onyx Quaternaries have been exhaustively investigated by an independent biological laboratory to determine these questions of toxicity and irritation. Their findings have shown conclusively that all four are non-toxic, non-irritating and non-sensitizing in all use-dilutions of 1-1000 or weaker, and that there is no danger of cumulative toxic action due to chronic ingestion of any residues left on food equipment due to inadequate rinsing. These findings are the result of . . .

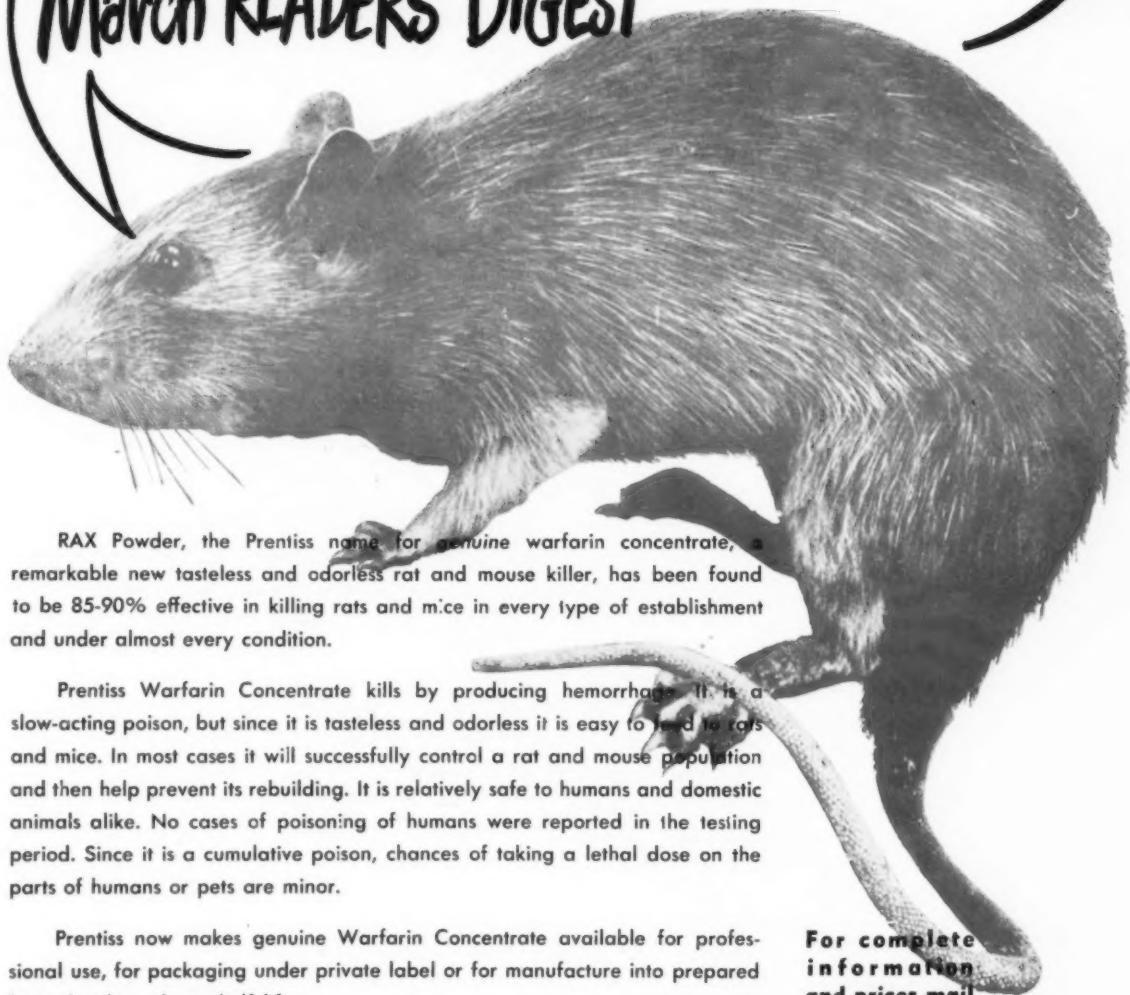
- (1) Acute and sub-acute toxicity on guinea pigs, white rats and dogs.
- (2) Chronic toxicity tests based on daily ingestion of sub-lethal, but moderately heavy dosages, carried out on guinea pigs for one year, and on white rats for two years.
- (3) Skin irritation and sensitization tests made on 200 humans.

We welcome your comments on these questions of sensitization and toxicity, and shall be glad to cooperate with you in answering any misconceptions you may run into.

If you are interested in any one of these particular "quats," please ask for data. Onyx BTC is covered in a very thorough technical handbook which also outlines the major characteristics of the quaternaries.



# What is Prentiss Warfarin Concentrate? Let Paul de Kruif tell you all about it in March READER'S DIGEST



RAX Powder, the Prentiss name for genuine warfarin concentrate, a remarkable new tasteless and odorless rat and mouse killer, has been found to be 85-90% effective in killing rats and mice in every type of establishment and under almost every condition.

Prentiss Warfarin Concentrate kills by producing hemorrhage. It is a slow-acting poison, but since it is tasteless and odorless it is easy to feed to rats and mice. In most cases it will successfully control a rat and mouse population and then help prevent its rebuilding. It is relatively safe to humans and domestic animals alike. No cases of poisoning of humans were reported in the testing period. Since it is a cumulative poison, chances of taking a lethal dose on the parts of humans or pets are minor.

Prentiss now makes genuine Warfarin Concentrate available for professional use, for packaging under private label or for manufacture into prepared baits that have long shelf life.

\* Distributed under U. S. Patent No. 2,427,578

For complete  
information  
and prices mail  
coupon today!

**PRENTISS DRUG & CHEMICAL CO., INC.**

*Formerly*

R. J. PRENTISS & CO., INC.

110 William Street, New York 7, N. Y.

9 So. Clinton Street, Chicago 6, Illinois

I'm interested in Prentiss Warfarin Concentrate for

- professional use
- repackaging under private label
- repackaging with prepared baits

SSC-551

Please send full information and prices.

Name

Company

Address

City

Zone State

# *The latest books on*

## **SYNTHETIC DETERGENTS**

*by John W. McCutcheon*

\$7.10 in U. S. A.  
7.60 elsewhere

A PRACTICAL 435 page book concerned primarily with the detergent compounds, defining the various types of synthetics as to class, manufacture, application and processing. In addition to a thorough analysis of the manufacturing processes involved, a discussion of source and preparation of raw materials, the author presents also an adequate theoretical background on the fundamentals of surface activity and the relation of surface activity to detergency, emulsification, foaming, wetting and dispersion.

---

## **MODERN CHEMICAL SPECIALTIES**

*by Milton A. Lesser*

\$7.25 in U. S. A.  
7.75 elsewhere

THIS text covers the formulation, manufacture, and use of polishes, cleansers, detergents, floor-care products, leather-care products, textile products, industrial and household specialties and many other allied chemical specialties. This new 514 page book comprises 42 chapters, each dealing with a different specialty and including formulas and manufacturing method for that specialty. The manufacturer, marketer, chemist, buyer, will find this practical book invaluable. Order your copy now.

---

## **SOAPS AND DETERGENTS**

*by E. G. Thomssen  
and John W. McCutcheon*

\$9.00 in U. S. A.  
9.50 elsewhere

A NEW and completely revised 512 page text on soap making, "Soaps and Detergents," by E. G. Thomssen and John W. McCutcheon takes the place of the previous volume, "Modern Soap Making," which has been out of print for several years. "Soaps and Detergents" is the only complete American text on soap making and the only new book on the subject available. Wide advances of the past ten years, including continuous soap making processes and the commercial formulation of synthetic detergents, are included in the text.

*Send Check with Order*

**MACNAIR-DORLAND COMPANY**

*publisher*

254 West 31st Street

New York 1, N. Y.



**7. Mediterranean Flour Moth** — One of the world's worst stored product pests. Wing expanse is little less than 1". Forewings are pale gray with wavy black markings. Attacks stored grains, dried fruits, nuts, chocolates, etc.



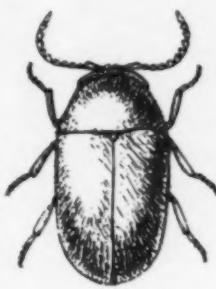
**8. Polistes Wasp** — Large insects, often brightly marked. Build coarse paper nests, suspend them from branches or building eaves. May damage picked fruit. They like fruit juice and will often collect where fruit is being canned.



**9. Spider Beetle** — About  $\frac{1}{8}$ " long, reddish brown, with oval body and long slender legs. Important pest of stored products, often found in granaries and warehouses. Spider beetles attack flour, meal, and other stored food products.



**10. Housefly** — Small, with wide head, large, well-separated eyes, bristly thorax. Young live in decaying plant and animal matter. Worldwide distribution. Probably second in importance only to mosquitoes as a pest of man.



**11. Cigarette Beetle** — Oval, reddish yellow, about  $1/10$ " long, with short antennae. Feeds on dried plant and animal products. Damages cigarettes and cigars by boring through paper and wrapping leaves. Sometimes attacks stored grains.



**12. Dark Meal Worm** — Dark brown worms. Grow to about 1" length. Usually found in dark, damp places. Feed on grain, flour, meal, bran, cereals, bread, crackers, mill sweepings, meat scraps, and similar materials.

# SABOTEURS in the food industry

Saboteurs like these are continually at work — devouring precious food and cutting down efficiency of workers — wherever food products are stored, processed, or handled. But fast, effective, economical control of these and a wide variety of other food insects is possible now with *Pyrenone-based insecticides*.

Versatile Pyrenones are ideal bases for oil-type, emulsion, or wettable-powder sprays . . . aerosols . . . and many specialty insecticides. They're doing an important job in the present national emergency protecting food and food products against insect damage.

*This is the second ad in a series. We'll be glad to send you reprints of this ad or the preceding one. Just write U. S. Industrial Chemicals, Inc., 60 East 42nd Street, New York 17, N. Y. Branches in all principal cities. In Canada: Natural Products Corporation, 738 Marin Ave., Montreal.*

Pyrenone

\*Registered trade-mark of U.S.I.

# 28th ANNUAL CONVENTION and MERCHANDISE EXPOSITION

of the National Sanitary Supply Association

June 3-4-5-6-1951

Civic Auditorium, Cleveland, Ohio

**Terrific  
Banquet-Floor Show**

— • —  
**Meet Mr. "X" . . . He'll  
give \$100.00 Bills  
Away . . . Free**



IF you are not as yet a member of this great association, write today. . . . Learn how its progressive programs can help you.

MERCHANDISE . . . You'll see the latest, the newest, the best . . . in Janitor Supplies, Equipment and Sanitary Chemicals. . . . More than 125 leading manufacturers will display their products.

DEMONSTRATIONS . . . New merchandise and equipment will be displayed and demonstrated by factory trained men . . . experts and specialists in their line . . . your opportunity to be first with the newest!

IDEAS . . . You'll pick up many valuable ideas . . . special information that is certain to aid you in the future successful conduct of your business.

MEETINGS . . . You'll attend business sessions and meetings full of vital . . . important . . . facts about your business. Informative facts you can secure from no other source.

FELLOWSHIP . . . You'll mingle with the finest fellows in the world! . . . Members of the National Sanitary Supply Association. You'll make the acquaintance of the most successful men in the business. You'll have the opportunity of "comparing notes" with them. You'll meet many manufacturers on a "personal basis."

**National Sanitary Supply Association, Inc.**

139 NORTH CLARK STREET • CHICAGO 2, ILLINOIS

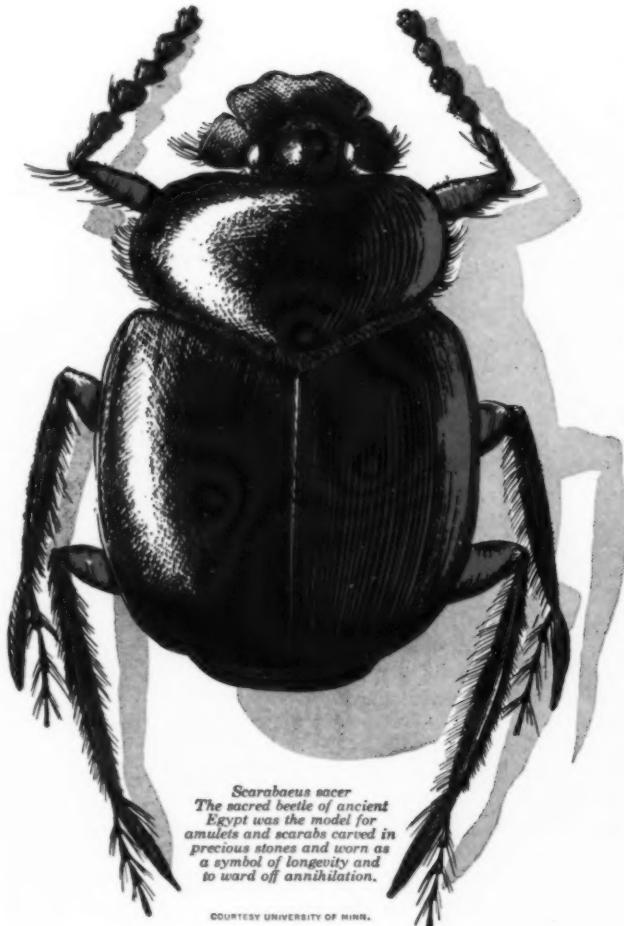
Go the scientific way...go **MGK**

**AEROSOL INSECTICIDE CONCENTRATES**

**SPRAY INSECTICIDE CONCENTRATES**

**DUST INSECTICIDE CONCENTRATES**

*Purest toxicants and synergists  
In tested ready-to-use formulations  
In partially processed formulations*



*Scarabaeus sacer*  
The sacred beetle of ancient  
Egypt was the model for  
amulets and scarabs carved in  
precious stones and worn as  
a symbol of longevity and  
to ward off annihilation.

COURTESY UNIVERSITY OF MINN.

You may want complete formulas . . . ready to put right into your aerosol bombs or your retail packages. You may want combinations of insecticides and synergists that leave you only the minimum of processing to do. You may want to do most of the processing yourself and to you we offer the purest toxicants and synergists in their primary forms. MGK has the best of whatever you want.

The emblem "MGK" is satisfying assurance of high efficiency and scientific production in insecticides and insecticide ingredients. Let this single experienced source help you make better products for less money. For complete information about MGK services write Dept. S, 1715 Southeast Fifth Street, Minneapolis, Minnesota.

**THE PIONEERS OF  
PYRETHRIN AND ALLETHRIN**

**McLAUGHLIN**

**GORMLEY**

**KING COMPANY**

*Ah!*

# MINT-O-PHENE

"CLEAN AS A MOUNTAIN BROOK"



The GERMICIDE With the Delightful  
MINT ODOR.

#### HEAVY DUTY DISINFECTANT

For efficient and safe disinfecting and deodorizing  
in the home, schools, clubs, hospitals.

#### POWERFUL GERMICIDAL ACTION

Destroys putrefactive bacteria usually causing foul  
odors. Economical dilutions.

#### DISEASE PREVENTATIVE

Excellent as a foot bath for prevention of Athlete's  
Foot.

#### DEODORANT SPRAY

If it is impractical to mop, Mint-O-Phene can be  
effectively used as a deodorant Spray.

#### BRILLIANT GREEN COLOR

Its cool green color and fragrant mint odor helps  
to make MINT-O-PHENE a winner in sales appeal.

#### COEFFICIENT 5, F.D.A. Method

SEND FOR LATEST PRICE LIST CONTAIN-  
ING A WIDELY DIVERSIFIED LINE OF  
BAIRD & McGuire CERTIFIED PRODUCTS.



THE ONE  
AND ONLY . . .

**Baird & McGuire, Inc.**  
HOLBROOK, MASSACHUSETTS



CREATORS AND COMPOUNDERS OF THE BEST IN CLEANERS AND DISINFECTANTS FOR OVER 42 YEARS

# SANITARY PRODUCTS

A SECTION OF SOAP

**T**ESTIMONY on DDT offered by Dr. Paul Neal and Dr. Wayland J. Hayes recently before the Delaney Committee, as this group resumed its investigation into use of dangerous chemicals on food products, effectively knocked into a cocked hat the testimony put in the record last fall by Dr. M. S. Biskind, New York physician. They point out that while Dr. Biskind sees DDT poisoning everywhere, and according to him about a third of his patients are supposedly suffering from such, it is rather odd that no other physician or scientist confirms the Biskind findings.

Neal and Hayes suggest "psychoneurosis, particularly hysteria" as the probable true explanation of the startling Biskind findings, which last year made headlines for Biskind and very unfavorable publicity for insecticides. Of course, Biskind could be right. Maybe everyone has DDT poisoning and we all have been knocked so wacky by it, that no one but the much-publicized physician, mysteriously immune, has been able to diagnose it correctly. For the moment, however, the weight of evidence seems to refute the Biskind view and strip away its sensational veneer.

When Biskind's "findings" were announced originally in scare headlines of the most sensational tabloid type, everyone must have read the story. It was hard to miss,—on the front page. The recent Neal and Hayes testimony, as is usual in such cases, will receive more restrained treatment,—maybe a squib on page forty-six, if any mention at all. To date the newspaper which heralded the sensational Biskind "findings" to the skies doesn't seem to have heard about Neal and Hayes, and their appearance before the Delaney Committee. Just one more example of the importance of the educational job which the insecticide industry must keep doing all the time.

**C**URRENTLY, a hearing on new tentative trade practice rules for floor waxes is being held by the Federal Trade Commission in Washington. This is the second set of rules drawn up by FTC, the first having been revamped after consultation with members of the industry. Claims for long wear, non-slip, and water-proofness again are the nub of the regulations as before. Some manufacturers favor this form of industry self-regulation and others oppose, while most appear to be simply apathetic. But, that eventually, definite trade practice rules will evolve, we have no doubt.

**A**DVERTISING claims for warfarin are carried in a bulletin recently issued by the National Better Business Bureau in which it sets forth statements acceptable to the Fish and Wild Life Service and to the Insecticide Division of USDA. Admitting that warfarin is a useful rodenticide, the Bureau points out that some tendency to exaggerate advertising claims has been noted, especially that warfarin is harmless to humans, a permanent cure for rodent damage, prevents re-infestation, and is the only successful rodenticide.

Although the Bureau undoubtedly had the best of intentions in issuing this bulletin, we unconsciously connect its name with prevention of serious fraud, and feel that persons may thus be misled to believe that warfarin is just another fake. The Insecticide Division and the Fish and Wild Life people, we feel, have the matter well in hand. We hazard the guess that the BBB bulletin can accomplish no more than is being accomplished by these government agencies. At the same time, it may scare some users away from one of the best rodenticides, if not the best, ever to come to market.

# Stabilization of WAX AEROSOLS

By  
**B. J. Eiseman, Jr.\***

E. I. du Pont de Nemours & Co., Inc.

**T**HE preparation of a polishing wax in aerosol form presents certain problems in addition to those normally encountered in formulating a liquid wax. In general, any sufficient fluid commercial wax suspension can be propelled although in many cases a better aerosol product can be made if the end use is considered in the preparation of the wax itself. The properties of a spray-wax formulation can be improved when the characteristics and behavior of this type of aerosol product are more clearly understood. Some of the problems connected with spray wax formulations are discussed below.

A wax aerosol consists of the polish-

ing wax, a vehicle for it, and the propellant. The vehicle is an organic liquid which will evaporate slowly (usually kerosene or the equivalent) and is soluble in the propellant so that there is only one liquid phase in the container. The wax itself is present as a finely divided solid. Wax aerosols commonly exert a pressure of 35 to 40 psig. at 70°F. The pressure and the proportion of propellant must be high enough to give good spraying characteristics. About 75% by weight of propellant is used ordinarily.

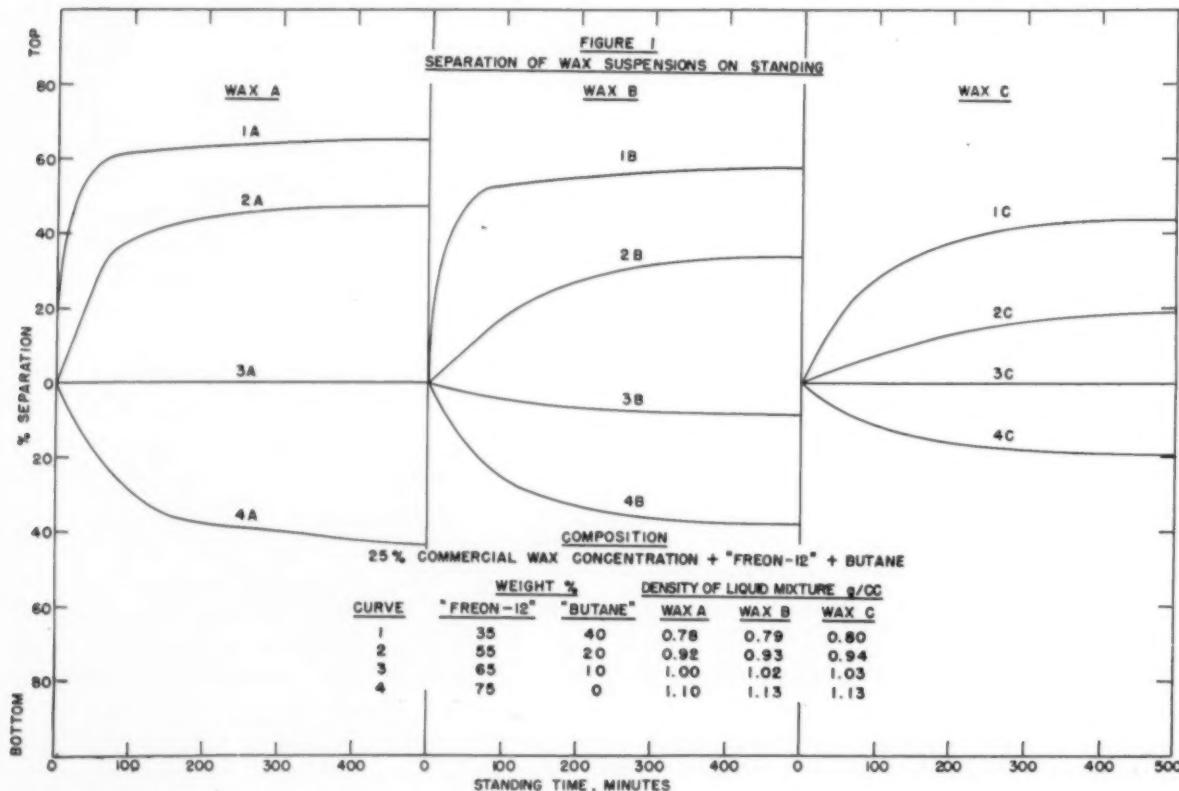
## Wax Aerosol Problems

**T**HIS wax concentrate plus propellant system presents several problems. The propellant-vehicle mixture is a dense liquid in which the

wax floats and tends to separate; it "creams" in the technical sense of the term. As a result, liquid vehicle free of solid wax may be sprayed out through the standpipe, if the container is not shaken before use. Since the wax is present as a solid, lumps may form under adverse conditions and clog the spraying mechanism. Likewise the possibility of corrosion must be considered—as in all aerosol systems—since it can cause failure of the spraying mechanism or weakening of the container.

A study of these effects has been made by sealing appropriate aerosol mixtures in glass pressure tubes and observing the separation, the lump formation and corrosion in the several cases. The methods used in prepar-

\* Paper presented before 37th mid-year meeting, C.S.M.A., Chicago, May 1.



ing and handling such tubes have been described elsewhere<sup>1</sup>.

#### Separation of the Wax

LET us first consider separation of the wax from the liquid. In order to determine the effect of density of the propellant on separation of the wax, formulations containing 25% by weight of commercial wax concentrate and 75% by weight of various mixtures of "Freon-12" and butane were sealed in glass pressure tubes. The density of the liquid could be changed by varying the ratio of "Freon-12" to butane, the latter having been selected as a component because its low liquid density permitted the study of a wide range of densities. When the propellant-vehicle liquid mixture is denser than the wax, the wax floats to the top leaving a clear liquid beneath (as shown in Figure 3, Tube 1); when the liquid mixture is less dense than the wax, the wax sinks, leaving a clear layer separated on top. When the wax and the liquid have about the same density, there is little

separation. In Figure 1, graphs of the separation as a function of time are shown for three commercial concentrates. These graphs bring out two points:

1. Where the difference in density between solid and liquid is large, rapid separation occurs in the first few minutes of standing.
2. Different waxes separate at different rates.

This second point is brought out more clearly by the graphs of Figure 2, where the separation after 150 minutes is plotted against density of the liquid. This period was chosen as a convenient one for comparing the separation in various systems. The data of Figure 1 are replotted here along with other data. The numbers adjoining the points indicate the weight per cent of propellant in the mixture. If we consider only the data with 75% propellant (which include the data of Figure 1), there is approximate proportionality between per cent separation and the difference in density between the solid\* and the

liquid, as indicated by the sloped lines on the graphs. The proportionality factor, however, varies considerably from wax to wax, as shown by the differences in slope, the separation of wax A being quite sensitive to density differences, and that of wax C being comparatively insensitive. This difference in separation rate shows an approximate correlation with particle size (Table I).

When we consider the lower proportions of propellant in Figure 2, the situation appears less simple. With 33% to 55% of propellant, separation does not take place very rapidly even where there is a considerable difference in density between the solid and the liquid—an influence of the nature of the liquid mixture is indicated.

#### Prevention of Separation

THE data presented above suggest that non-separating wax aerosols can be prepared by using either a low proportion of propellant or a higher proportion of an unusually low density propellant. Unfortunately, neither alternative is practicable, since high proportions of propellant are needed, with the valves now used, to give good spraying characteristics and very low density propellents are flammable. In order to have a non-flammable propellant, halogenated compounds must be used, all of which have a specific gravity greater than that of water.

In seeking means for preventing creaming of wax suspensions containing an adequate amount (about 75%) of non-flammable propellant (such as 50% "Freon-12", 50% "Freon-11" mixture), it has been found that wax aerosols are readily stabilized by the addition of an appropriate amount of finely divided dense solid. When the density of the wax and that of the vehicle-propellant mixture are known, the amount of additive required can be calculated. Just enough dense solid is added to make the density of the final mixture of solids equal to that of the liquid. If the densities are not known, the right amount of additive is easily determined by trial.

Inorganic solids will ordinarily

Wax Concentrate	Relative Rate of Separation	Particle Diameter, Microns			Solids in the Concentrate, %
		Majority of Particles	Largest Particles	Concentrate, %	
C	1.0	0.5 to 5*	25 to 75	4.2	
D	1.2	1	3*	3.9	
B	1.8	2.5 and 1 X 5**	50 to 60*	7.4	
A	2.5	2.5	70 to 100*	6.3	

\* Probably agglomerates.

\*\* There were numerous rod shaped particles 5 microns long by 1 micron in diameter as well as rounded particles 2.5 microns in diameter in this concentrate.

#### Effect of Inorganic Powders on the Separation of Wax from Aerosols

Propellant: 75% by weight "Freon-11", "Freon-12" 50%-50% Mixture

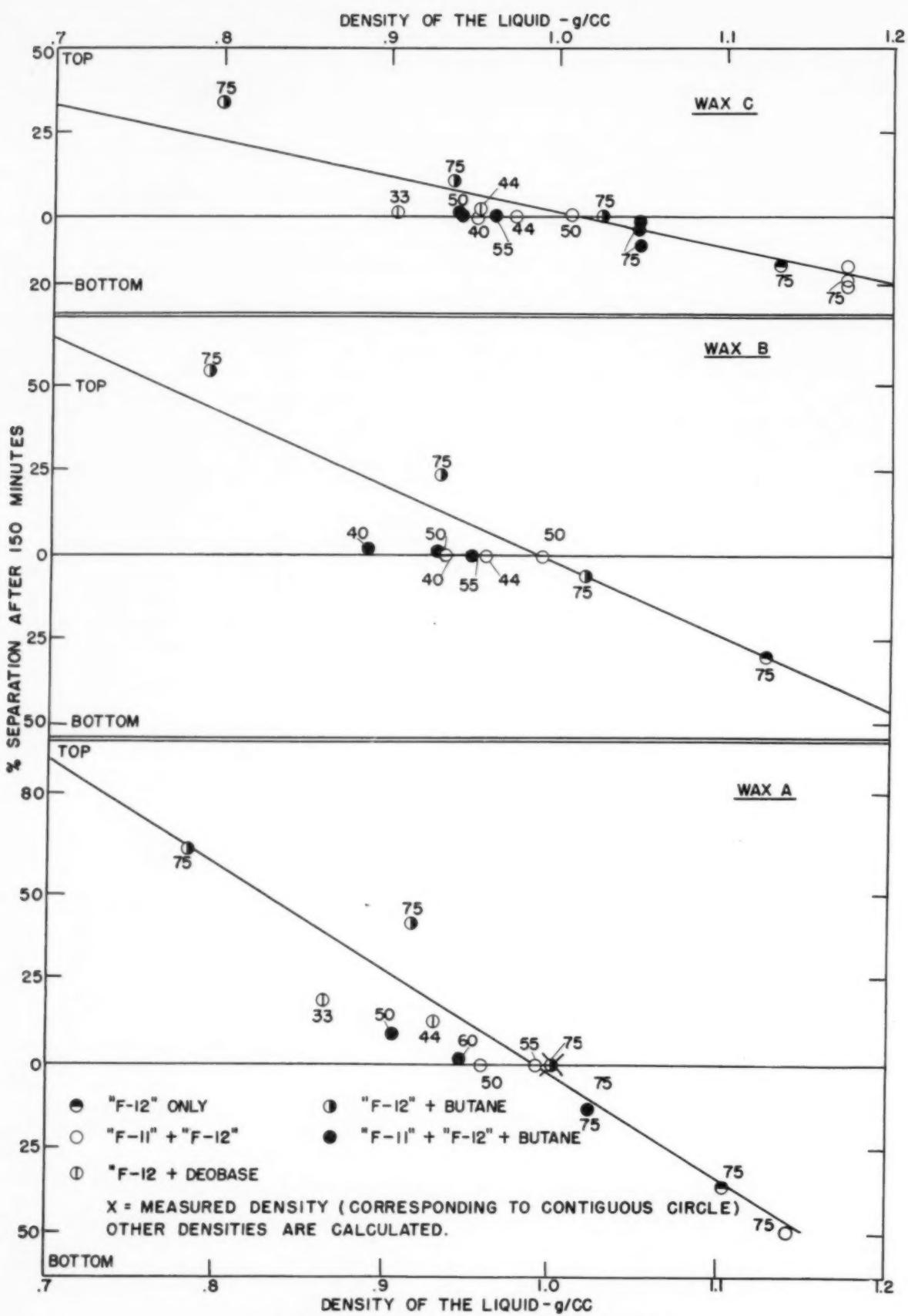
Part 1 1.25% Wax in the Aerosol Mixture					
Additive	Ratio of Additive to Wax	% Separation After Standing			
		45 Min.	150 Min.	7.5 Hrs.	2 Weeks
None	.0	-20	-37	-42	-54
Calcium Fluoride	0.275	0	0	-3	-13
Calcium Fluoride	0.285	0	0	+3	+10
Talc	0.32	-2	-3	-8	-19

Part 2 0.8% Wax in the Aerosol Mixture					
Additive	Ratio of Additive to Wax	% Separation After Standing			
		10 Min.	150 Min.	7.5 Hrs.	1 Week
None	.0	-46	-64	-68	-69
Calcium Fluoride	0.28	0	0	0	0
Zinc Oxide	0.23	0	0	+6	+14

0.6% Wax in the Aerosol Mixture					
Additive	Ratio of Additive to Wax	% Separation After Standing			
		10 Min.	150 Min.	7.5 Hrs.	1 Week
None	.0	-7	-47	-58	-62
Calcium Fluoride	0.43	0	+47	+57	+61
Zinc Oxide	0.35	0	+41	+42	+57



**FIGURE 2 - STABILITY OF WAX SUSPENSIONS**

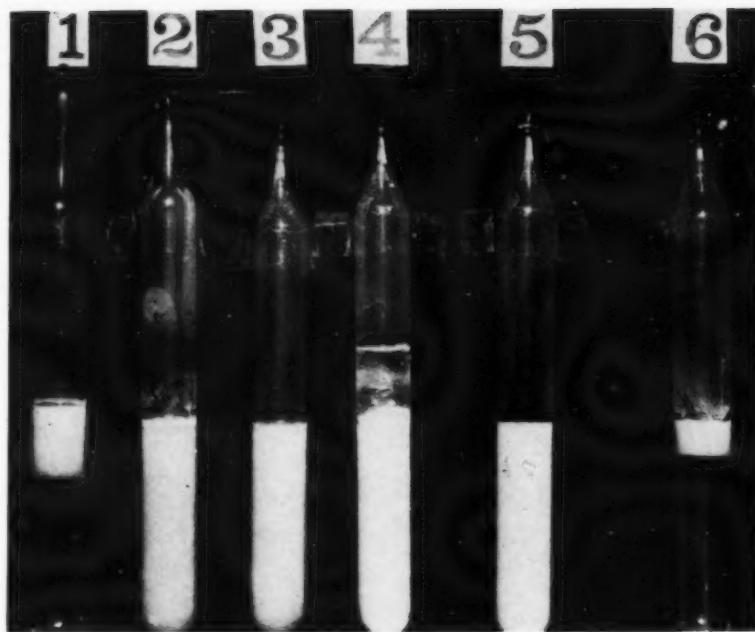


FIGURE 3. Effect of Additives on Wax Aerosols.

Tubes 1 through 5, after standing one week; Tube 6 after standing one hour. Tube 1, blank; Tube 2, calcium fluoride; Tube 3, talc; Tube 4, zinc oxide; Tube 5, dibromosuccinic acid; Tube 6, Emulsifier STH.

be preferable for this purpose because of their high density and low cost. The particle size should be about that of the wax or smaller. (However, somewhat larger particles have given the desired result.) The added solid must be wetted by and dispersed in the vehicle-propellant mixture without forming clumps of large agglomerates. Subject to this condition, it does not matter how the added solid is introduced. Surprisingly enough, if the inorganic solid is simply added and shaken or stirred to distribute it uniformly, it does not separate from the wax—if the mixture is too dense, all of the solid settles, or if the mixture is less dense than the liquid all of the solid creams. The added solid does not alter the free-flowing characteristics of aerosol mixture.

Typical data on the effect of inorganic additives are shown in Table II. The per cent separation is the per cent of clear liquid, and a plus (+) sign indicates that the clear liquid is at the top (settling has occurred), while a minus (—) sign indicates that the clear part is at the bottom (creaming has occurred).

Some of the effects indicated in Table II are illustrated by the photo-

graphs of tubes containing wax aerosols shown in Figure 3. Creaming of the wax is shown by Tube 1 (no additive). Tubes 2 and 3 are stabilized mixtures, and Tube 4 contains excess inorganic additive, so that the wax has settled to the bottom. These four tubes were photographed after standing for one week.

In Part 1 of Table II, data are given on two mixtures containing calcium fluoride, one of which has creamed slightly, while the other has settled slightly. Mixing these two in equal proportions would give an extremely stable suspension. In Part 2, Table II, there are formulations with lower proportions of wax, which are more difficult to stabilize because of the smaller bulk of the solids. Data are given on a stable suspension, a partially stabilized one and two which have been caused to settle instead of cream by "over-stabilization".

Calcium fluoride proved to be a particularly good additive in three respects (beside stabilizing the suspension): When it was present, the wax films dried more uniformly, the gloss was a little better and the tendency to gel on heating and cooling was somewhat diminished. Two forms of

calcium fluoride were used—precipitated material of particle size 6 to 15 microns and a micronized fluorspar of about 3 microns particle size. Polishing tests on automotive finish were made with calcium fluoride or talc in the wax formulation. There was no tendency to scratch. In addition to the additives of Table II, there is a wide variety of commercially available pigments and finely divided fillers which could be used in the same way.

#### Effect of Organic Additives

**A** SECOND method was developed for stabilizing wax aerosols against creaming. It consists in adding small amounts of bi-functional or polyfunctional substances. The hydroxyl, amino, carboxyl and acid anhydride groups proved to be effective. (The acid anhydride group is equivalent to two functional groups.) Examples of effective additives of this type are: tetrabromophthalic anhydride, dibromosuccinic acid, lead tartrate, glycine, glycerine, citric acid, triethanolamine, triethyleneglycol, glycol, ethanolamine and ethylene diamine. An example of a wax aerosol containing 75% "Freon" propellant stabilized in this way is shown in Figure 3, Tube 5 (photographed after standing one week). The stabilizing agent is dibromosuccinic acid (0.8% of the total charge and 42% of the wax). A series of tests run with another wax using tetrabromophthalic anhydride as stabilizing agent gave optimum stabilization at 0.08% additive based on the mixture (5% based on the wax solids). The range tested was from 0.008% to 1.6%, based on the mixture. These two bromo compounds were the best additives of this type found. In a small number of laboratory tests they had no adverse effect on the polish obtained on automotive finish as regards both gloss and water resistance.

This second method for stabilizing wax suspensions is not as straightforward as the other, in that the best additive for a particular wax has to be determined by trial, and complete stabilization is not always attained—sometimes the rate of separation

(Turn to Page 129)

# INSECTICIDE LAWS

## —up-to-date

**A**LL manufacturers of insecticides, fungicides, disinfectants, and other products classified as "economic poisons", who distribute their products in the various States, are subject not only to Federal legislation and regulations covering interstate shipments but to 43 different State laws (including Hawaii). Thirty-five (35) of these laws require annual registration and, with the exception of four, provide for a registration or "inspection" fee.

There is probably no other industry that is compelled to comply with as many laws and regulations in order to sell its products.

The Federal Act provides for registration but without any fee. Annual registration is not required but the Secretary (of Agriculture) "is authorized to cancel the registration of any economic poison at the end of a period of five years, . . . or at any five year period thereafter, unless the registrant, prior to the expiration of such five-year period, requests in accordance with regulations issued by the Secretary that such registration be continued in effect."

(The laws of those States followed by an asterisk, also include in their coverage rodent poisons and herbicides.)

### **Alabama. Insecticide and Fungicide Law**

Registration required annually. Year October 1—September 30. Fee \$10.00 for each brand, or \$15.00 if offered for sale before registration.

### **Arizona\*. Economic Poisons Act of 1945**

Annual registration. Year Jan-

\*For a complete compilation of State Laws see "Compilation of Economic Poisons Laws" published by Chemical Specialties Manufacturers Association, Inc., 110 East 42nd Street, New York 17, N. Y.

**Today 43 U. S. states have laws regulating insecticides and disinfectants, and 34 require annual registration with fees**

**By Dr. C. C. McDonnell**

uary 1—December 31. Fee \$25.00 for the first and \$10.00 for each additional product registered. The Act does not cover household insecticides, disinfectants and deodorants. Provided, however, by regulation (which has the "force and effect of law"), that "any economic poison, which may be used for purposes falling within the provisions and intent of the Economic Poisons Act but labeled or sold as a household insecticide or economic poison in containers of one gallon or more as a liquid, or its approximate equivalent in weight of eight pounds or more in solid or powder form, shall be classed as an 'economic poison' within the Economic Poisons Act and must be registered."

### **Arkansas\*. Economic Poisons Act**

Registration annually provided that "An economic poison need not be registered if the name and percentage of each active ingredient is given on the label", and provided further that products "registered in compliance with Federal laws of the same intent and purpose as this Act" are exempt from registration. Registration renewable July 1. Application fee \$15.00 for each economic poison "if the applicant gives the Board (State Plant Board) his formula and \$30.00 if he does not", and an additional fee of \$5.00 for registration if the application is accepted.

Under the State Pest Control

License Act, all persons who shall, for compensation, give advice or engage in pest control work, must procure a license. Operators license annual fee \$5.00, and those who solicit work must have a "salesman's" license, annual fee \$3.00.

### **California\*. State Agricultural Code, Economic Poisons**

Registration annually. Year July 1—June 30. Fee \$50.00 for one to ten economic poisons and \$2.00 for each product over ten, provided "If renewal of registration is not applied for within one calendar month after the expiration of a registration, there shall be added to the fee a penalty of 10%, to which shall be added an additional penalty of 5% of the original amount due, for each succeeding calendar month, but the total penalty shall not exceed 50% of the original amount due." (There is no penalty if the registrant makes an affidavit that no business was done during the period of nonregistration.)

The Act does not apply to preparations, drugs or chemicals intended to be used solely for medicinal use by humans, or for toilet purposes, and "germicides, disinfectants, or sterilizers for hospital, dental, tonsorial, or purely medicinal uses; or for swimming pools, or for glassware in drinking establishments, or other involvement of public health outside the field of agriculture and related activities; if the

label and claims do not exceed these boundaries, shall not be registered." These products, however, if to be used in stables, dairies, creameries, poultry runs and houses, and "general agricultural and related uses", must be registered. (Reg. No. 6.)

#### **Colorado\*. Insecticide, Fungicide and Rodenticide Act of 1947**

Registration annually. Year July 1 — June 30. Fee \$5.00 for each product registered, or any number of brands after the payment of annual fees aggregating \$50.00.

#### **Florida. Insecticide and Fungicide Act of 1937**

Applies to agricultural insecticides and fungicides and "other plant pests" which may be detrimental to vegetation. Registration annually. Year January 1—December 31. Fee \$125.00 "for a license to manufacture or sell agricultural insecticides" within the State, and a registration fee of \$2.50 for each brand registered.

#### **Georgia\*. Economic Poisons Act**

Registration annually. Year January 1 — December 31. Fee \$5.00 for each brand or "grade", or any number of brands upon payment of annual fees aggregating \$200.00. The Act also provides that everyone who offers for sale within the State any product covered by the Act, shall procure a "Dealers regulatory license" from the Commissioner of Agriculture (no fee), which "shall continue in force unless revoked"; and that any non-resident manufacturer or distributor shall, at the time of registration, designate to the Commissioner of Agriculture "an attorney in fact", residing within the State, on which attorney "legal service and process may be had" so as to bring such non-resident manufacturers under the jurisdiction of the Courts of the State.

#### **Hawaii\*. Economic Poisons Act**

Registration annually. Year July 1 — June 30. Fee \$5.00 for each economic poison registered. "Germi-

cides, disinfectants or sterilizers for hospitals, dental, tonsorial or purely medicinal uses or other public health uses outside the field of agriculture, household use and related activities shall not require registration if the label and claims do not exceed these boundaries." "Germicides, disinfectants or chemical sterilizers to be used in stables, dairies, creameries, poultry runs, households and for general agricultural and related uses" must be registered.

#### **Act 357 Relating to the Sale and Use of 2,4-D, and Related Weed Control Substances**

Provides that before any person shall sell, or offer for sale, any product containing 2,4-D or "related weed control substances", such person shall obtain a license. Fee \$10.00 annually. Licenses expire on July 1 of each year. The Act also provides that all importers of 2,4-D, or related weed control substance, for sale within the Territory shall pay an inspection fee, the amount of which may be set from time to time but "shall not exceed a maximum of \$.02 per pound of the free acid equivalent of 2,4-D."

#### **Kansas\*. Agricultural Chemical Act of 1947**

Registration annually. Year January 1 — December 31. Fee \$15.00 per brand for the first ten, or any number of brands on payment of annual fees aggregating \$150.00.

#### **Kentucky. Food, Drugs and Poisons Act**

The term "Drug" includes "Paris green and all other insecticides and fungicides." Labels are required to be filed with the State Board of Health. The Act provides that the State Board of Health "may fix reasonable fees for examining samples of . . . drugs or labels submitted by manufacturers or dealers to determine whether the products or labels comply with the provisions of the Act", and "Whenever a sample has been found to be adulterated or misbranded, the Board shall collect a fee of not more than \$15.00 to cover the costs of in-

vestigation or analysis."

#### **Louisiana. Agricultural Poisons Act**

Covers insecticides, fungicides and herbicides "where such substances are used, or intended to be used on field crops, vegetable crops, gardens, orchards, etc." Registration required, which is valid "until such time as it is cancelled by the guarantor, or cancelled for cause by the Commissioner, or it is deemed advisable by the Commissioner to review all registrations." There is no fee for registration but the Act provides that every guarantor or person manufacturing or selling any agricultural poison "shall pay to the Commissioner an inspection fee of ten (10) cents per hundred-weight (100) on all agricultural poisons sold in this State." . . . "The weight reports and inspection fees shall be due and payable on the first day of February." (Provides for a penalty of 10% if payment is not made within twenty days after due date.)

Regulations governing the sale and use of 2,4-D and related herbicides prohibit their use except under special permit issued by the Commissioner of Agriculture and Immigration. Provides also for liability for damage to "crops, orchards, gardens, or other valuable plants, other than that on the property being treated."

#### **Maine. Insecticides and Fungicides**

Registration annually. Year January 1 — December 31. Fee \$10.00 for each brand, except "that said fee shall not be assessed for the registration of a fungicide or insecticide consisting of organic matter and not containing any added inorganic matter or mineral chemical, provided that a complete chemical analysis of said fungicide or insecticide is given in, and as a part of, the certificate required under this section." (A new bill is now pending before the State Legislature.)

#### **Maryland\*. Insecticides and Fungicides Act**

(The Act does not cover insecticides intended solely for household use.) Registration annually. Year

## FLOOR CLEANING MAGIC



complete line of maintenance materials available under your private label

January 1 — December 31. Fee \$5.00 for each brand, or any number of brands on payment of annual fees aggregating \$75.00.

#### **Michigan\*. Insecticide, Fungicide and Rodenticide Act of 1949**

Registration annually. Year November 1 — October 31. Fee \$5.00 for each brand for the first ten and \$2.00 for each brand in excess of ten.

#### **Minnesota\*. Economic Poisons and Devices Law**

Registration annually. Year July 1 — June 30. Fee \$5.00 for each product registered, with a maximum of \$25.00 for any number of brands. A penalty of 50% of the registration fee if application for registration is not made on or before July 1 of each year, or within "the same month such economic poisons are first manufactured or sold within this State."

#### **Mississippi\*. Economic Poisons Act of 1950**

Registration annually. Year January 1 — December 31. Fee \$5.00 each for the first five products, or any number of brands on payment of annual fees aggregating \$25.00.

#### **Montana\*. Insecticide, Fungicide and Rodenticide Act of 1947**

Registration annually; Provided "that any economic poison imported into this State, which is subject to the provisions of any Federal Act providing for the registration of economic poisons and which has been duly registered under the provisions of said Act, may, in the discretion of the Director (of the Food and Drug Division of the State Board of Health), be exempted from registration under this Act, when sold or distributed in the unbroken immediate container in which it was originally shipped." (A letter from the Director, dated January 16, 1951, stated, "We have proceeded on this basis." Action may be taken at any time, however, making registration compulsory.) No fee for registration is fixed by the Act.

#### **New Hampshire\*. Economic Poisons Law**

Registration annually. Year January 1 — December 31. Fee \$10.00 for each product registered, or any number of brands upon the payment of \$100.00.

#### **New Jersey. Law of 1912. Insecticides**

Applies only to insecticides for use against "insects which may infest vegetation. Registration annually. No fee. (Bill pending before the present Legislature which follows closely the Federal Act, but provides for a fee for registration.)

#### **New Mexico\*. Insecticide, Fungicide and Rodenticide Act of 1951**

Requires registration annually. Fee \$2.00 for each brand registered.

#### **North Carolina\*. Insecticide, Fungicide and Rodenticide Act of 1947**

Registration annually. Year January 1 — December 31. Fee \$10.00 for each brand or "grade".

#### **North Dakota\*. Insecticide, Fungicide and Rodenticide Act of 1947**

Registration annually. Year January 1 — December 31. Fee \$5.00 each for the first five products and \$1.00 for each additional product. A penalty of 50% if application for registration is not made on or before January 1st of each year, or within the same month economic poisons are first manufactured or sold within the State.

#### **North Dakota Livestock Remedy Act**

The terms of this Act include "all powders, sprays, dips, and other preparations for external use in the curing of scab or the eradication of ticks, lice, and other mites and parasites on livestock, poultry, or other domestic animals." Registration annually. Fee \$6.00 for each product registered, but these products are covered by both of these Acts and may be registered under either Act.

#### **Ohio. Livestock Remedy Act**

Coverage includes "preparations for external or internal use in the eradication of parasites in or on livestock, poultry or other domestic animals." Registration annually. Year January 1 — December 31. Fee \$25.00 for each article registered.

#### **Oklahoma\*. Agricultural Chemical Law, Economic Poisons**

Registration annually. Year January 1 — December 31. Fee \$2.00 per brand (minimum fee \$5.00), and any number of brands upon annual payment of \$25.00. (This Act has been amended, effective February 20, 1951, increasing the registration fee to \$5.00 for each brand, or \$50.00 for any number of brands.)

#### **Act Regulating the Use and Application of Insecticides, Herbicides and Fungicides**

Requiring permits and bonds for applicators and users. Permit fee \$25.00 for aerial applicators, and \$5.00 for all other applicators. Renewable annually. The Act provides that a surety bond shall be filed with the State Board of Agriculture guaranteeing "a faithful performance of any contract the applicant makes for the use or application of insecticides, herbicides or fungicides."

#### **Oregon\*. Insecticide and Fungicide Law.**

Registration annually. Year January 1 — December 31. Fee \$20.00 each for the first three brands; four and not more than 25 brands a flat fee of \$75.00, and \$2.00 for each brand in excess of 25.

#### **Pennsylvania. Insecticides and Fungicides**

Registration annually. Year January 1 — December 31. Fee \$5.00 each for the first five brands, and \$1.00 for each brand over five.

#### **South Carolina. Act Relating to the Sale of Agricultural Preparations**

Applies to arsenical insecticides for boll weevil control and "any other

*a timely solution*  
to a pressing problem  
from the Givaudan research laboratories

special odors for aerosol bombs

With competition in aerosol dispensers steadily increasing—for insecticides, sprays, room deodorants, perfumes and other purposes—the right odor is becoming an increasingly important sales factor.

With many purchasers, odor is the *dominating sales factor*.

Givaudan has conducted a considerable amount of research in the development of special odors to meet the specific requirements of aerosol bombs for various purposes. These odors are produced from the highly purified line of Givaudan aromatics.

A scientific approach to the numerous problems involved in the formulation of aerosols, while not a replacement for a shelf test, will prove invaluable in saving time and research effort.

A sample of your product, and information regarding its toxic or deodorant principle, will enable our laboratory to supply perfume oils that

- 1** will be completely soluble in aerosol solvents
- 2** will leave no sediment in the bombs
- 3** will not clog the very small valves
- 4** will not decompose
- 5** will not affect the properties of other ingredients

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material or preparation for the purpose of destroying, controlling or preventing injurious insects or plant diseases." Requires that "specifications" of same be filed with the State Crop Pest Commission. No fee.

#### **Act Regulating the Sale of Commercial Disinfectants**

Registration annually. Year January 1 — December 31. Fee \$10.00 for each brand, or a maximum fee of \$50.00 per annum, covering "all brands made by a single manufacturer."

#### **South Dakota\*. Insecticide, Fungicide and Rodenticide Act of 1947.**

Registration annually. Year July 1 — June 30. Fee \$5.00 each for the first five products, and \$1.00 for each brand in excess of five.

#### **Aircraft Spraying and Dusting Law**

Requires a permit from the State Secretary of Agriculture to "operate any aircraft in the application, distribution, dissemination, spraying or dusting of any area in this State." Application fee \$5.00, renewable annually.

#### **Tennessee. Insecticides and Fungicides (Agricultural)**

Registration annually. Year July 1 — June 30. Fee \$20.00 annually "for the privilege of dealing in insecticides and fungicides."

#### **Insecticides and Fungicides (Household)**

Registration annually. Year July 1 — June 30. No fee. The Act provides for the use of inspection stamps (to be procured from the Commissioner of Agriculture) on each package before being sold or offered for sale, of the value of one-half of one per cent "of the retail price printed on the package." This stamp tax requirement, however, is considered impractical and is not enforced.

#### **Tennessee Insecticide, Fungicide and Rodenticide Law\***

(New law. Effective June 1,

1951.) Provides for registration annually. Year July 1 — June 30. Fee \$5.00 for each brand or "grade".

#### **Texas\*. Insecticides and Fungicides Act**

The Act covers insecticides and fungicides for use against pests which may infest "agricultural crops, including fruits, vegetables, ornamentals, shade and forest trees; . . . poisons and chemicals sold expressly for crop protection against rodents and rats.", and "Any substance designed and offered for sale as a weed killer." Registration required annually. Year September 1 — August 31. Fee \$25.00 for each product, provided that "the total of the registration fees for any one firm shall not exceed \$100.00." The Act does not cover insecticides or fungicides designed exclusively for livestock, poultry and households.

#### **Texas Livestock Remedy Act**

Includes (3) "preparations for external or internal use in the eradication of parasites in or on livestock, poultry or other domestic animals; . . . and articles intended for use as a component of any of these articles." Registration annually. Year January 1 — December 31. Fee "not more than \$10.00 for each separate and distinct article registered; or a blanket fee of not more than \$100.00 of any manufacturer or person registering ten or more products: Provided, that for a period of six months or less the original registration fees above mentioned shall be halved." (The State Health officer is authorized to reduce these fees provided they produce more revenue than necessary for the enforcement of the Act.)

#### **Texas Act Regulating the Sale and Use of 2,4-D and Other Hormone Type Herbicides**

Provides for the licensing of dealers therein and the licensing and bonding of users thereof. License fee \$25.00, and "for each piece of equipment licensed hereunder a similar fee shall be paid to cover the expense of inspection and issuance of license." Renewable annually. All persons who

"own, operate or control any type of equipment for the purpose of applying 2,4-D, or other hormone type herbicides, (except those especially exempt), shall post a bond with the Commissioner of Agriculture in the amount of \$2000.00 for the first piece of licensed equipment and \$1000.00 for each additional separate unit of distributing equipment operated under a license." Exemption: Hand manipulated distributing equipment which is carried and operated solely by man power and "is capable of being carried and used by one man, and is limited to single discharge sprayers or dusters with a maximum tank or container capacity of 700 cubic inches." and "the bona fide sale or use of 2,4-D or other hormone type herbicides on and for lawns and home gardens in containers of a capacity not larger than one quart liquid measure or two pounds dry measure." (Certain Counties of the State are exempt from the provisions of the Act.)

#### **Utah. Economic Poisons Act**

(New law. Effective July 1, 1951.) Registration annually. Fee \$5.00 for each product, or any number of brands for \$50.00.

#### **Vermont\*. Insecticide, Fungicide and Rodenticide Act of 1947**

Registration annually, effective "during the year beginning with the date of application." Fee \$5.00 for each product, or any number of products on payment of annual fees aggregating \$50.00.

#### **Virginia\*. Insecticide, Fungicide and Rodenticide Law**

Registration annually. Year January 1 — December 31. Fee \$10.00 for each brand, or any number of brands on payment of annual fees aggregating \$200.00.

#### **Washington\*. Economic Poisons Act**

Registration annually. Year January 1 — December 1. Fee \$10.00 for the first and \$5.00 for each addi-

(Turn to Page 135)

  
**...a Pair of  
for Low Pressure  
Aerosols**



When dealing with low-pressure aerosols, this pair of Continental products is hard to beat. Continental is not only the largest manufacturer of low-pressure aerosol cans for non-food products, but also the only supplier of both container and valve — and container alone. And here's an ace in the hole: both cans can be fully lithographed in bright, attractive colors.



**A** For a "container-and-valve," all in one, put your chips on Continental's exclusive "Fingertip" dispenser. It's the *only* container with a built-in valve, and it's tops for low-pressure dispensing of fine spray products, like insecticides, household deodorants and similar preparations.

**A** For container alone, Continental's dome top pressure can is a sure winner. It's streamlined, has a quality appearance, is versatile — ideal for packaging a wide range of products, from insecticides to paint.



**CONTINENTAL  
CAN COMPANY**

CONTINENTAL CAN BUILDING  
100 East 42nd Street, New York 17, N. Y.

Eastern Division: 122 E. 42nd St., New York 17  
Central Division: 133 So. La Salle St., Chicago 3  
Pacific Division: Russ Building, San Francisco 4



At the recent meeting of the C.S.M.A. board of governors the morning of April 29, left to right, seated: J. L. Brenn, Huntington Laboratories, Huntington, Ind.; H. L. Sanders, Ninol Laboratories, Chicago; Leonard J. Oppenheimer, West Disinfecting Co., Long Island City, N. Y., president; R. T. Yates, Hercules Powder Co., Wilmington, Del.; Melvin Fuld, Fuld Brothers, Inc., Baltimore, second vice-president; (standing) H. F. Williams, J. R. Watkins Co., Winona, Minn.; T. Carter Parkinson, McCormick & Co., Baltimore; Clar-

ence L. Weirich, C. B. Dolge Co., Westport, Conn.; first vice-president; H. E. Peterson, Continental Filling Corp., Danville, Ill.; Bayard S. Johnson, Franklin Research Co., Philadelphia; Dr. E. G. Klarmann, Lehn & Fink Products Corp., Bloomfield, N. J.; and H. W. Hamilton, secretary and manager. Not present when photograph was taken was P. C. Reilly, Jr., of Reilly Tar & Chemical Corp., Tuckahoe, N. Y., treasurer. Gordon M. Baird, of Baird & McGuire, Inc., Holbrook, Mass., was unable to attend.

## Record C. S. M. A. Meeting

**T**HE unscheduled appearance of Michael DiSalle, head of the Office of Price Stabilization, to speak briefly at the banquet concluding the 37th mid-year meeting of the Chemical Specialties Manufacturers Association, held April 30-May 1, at the Hotel Drake, Chicago, climaxed the largest meeting in the history of the organization with an attendance of 600. Other highlights of the meeting included the election of the administrative committees for the five divisions of which the association is composed, and choosing a nominating committee to make up a slate of officers and directors to be elected at the annual CSMA meeting in December. The newly elected administrative committees of the divisions take office immediately and changes in the by-laws of the organization, approved at the Chicago meeting, go into effect, sanctioning the new method of electing officers.

Another change announced at the meeting by Leonard J. Oppen-

heimer of West Disinfecting Co., Long Island City, president, is the expansion of the board of governors from 14 to 19 members. Plans to increase dues to meet added expenses were also announced by Mr. Oppenheimer as being under consideration by the board of governors to be acted upon at the next meeting.

Col. James B. Colson, chief, Industrial Planning Coordinating Office, New York Quartermaster Procurement Agency, New York, who discussed "Industrial Mobilization vs. Current Procurement" was the featured speaker at the group luncheon, May 1. Several members of Col. Colson's staff also discussed various phases of selling the Quartermaster Agency. Other government representatives from the Munitions Board, the Office of Price Stabilization, the National Production Authority and the U. S. Department of Commerce were present to explain the activities of their respective agencies.

A resolution was adopted hon-

oring H. W. Hamilton, who has served for 10 years as unpaid secretary of the association, and who was recently appointed manager of C.S.M.A. A gold wrist watch was presented to him at the group luncheon on April 30.

Separate meetings of the five divisions of the association were held on the morning of April 30, and more than 50 papers were presented. Mainly these covered recent technical developments and the latest techniques in application of chemical specialty products.

In his impromptu remarks, Mr. DiSalle, Price Administrator, stated his belief that price controls are temporary, and that while manufacturers' selling prices have ceilings on them, the cost of their raw materials also will be controlled. He urged industry to be patient and to cooperate with OPS in behalf of the common interest.

The nominating committee chosen at the meeting follows: Richard T. Yates, Hercules Powder Co., Wilmington, Del., chairman; H. W. Moburg,

Rex Research Corp., Toledo; John Miller, Atlas Powder Co., Wilmington, Del.; J. L. Brenn, Huntington Laboratories, Inc., Huntington, Ind.; H. R. Shepherd, Connecticut Chemical Research Corp., Bridgeport, Conn.

Divisional administrative committees elected follow:

**Waxes and Floor Finishes Division**

Donald M. King, Masury Young Co., Boston, chairman.  
Cyril S. Kimball, Foster D. Snell, Inc., New York, vice-chairman.  
J. T. Hohnstine, Boyle-Midway Co., New York.  
H. J. Mellan, Durez Plastics & Chemicals, Inc., North Tonawanda, N. Y.  
A. E. Budner, S. C. Johnson & Son Co., Racine, Wis.

**Aerosol Division**

Edmond G. Young, Kinetic Chemicals Div., E. I. du Pont de Nemours & Co., Wilmington, Del., chairman.  
George Barr, George Barr & Co., Chicago, vice-chairman.

H. E. Peterson, Continental Filling Co., Danville, Ill.

Thomas Brennan, American Can Co., New York.

J. M. Kimmel, Aeropak, Inc., Chicago.

**Insecticide Division**

James A. Green, Standard Oil Co. of Indiana, Chicago, chairman.

George W. Fiero, Esso Standard Oil Co., New York, vice-chairman.

Preston B. Heller, B. Heller & Co., Chicago.

Frank U. Rapp, Hercules Powder Co., Wilmington, Del.

H. W. Moburg, Rex Research Corp., Toledo.

**Soap, Detergent & Sanitary Chemicals Products Division**

Herbert L. Sanders, Ninol Laboratories, Chicago, chairman.

Dr. Daniel A. Terry, Antara Products, General Dyestuff Corp., New York, vice-chairman.

A. G. Peck, Peck's Products Co., St. Louis.

J. M. Hoerner, Atlantic Refining Co., Philadelphia.

W. S. Jessop, U. S. Sanitary Specialties Co., Chicago.

**Disinfectant & Sanitizers Division**

William X. Clark, Sterwin Chemicals, Inc., New York, chairman.

R. S. Shumard, Monsanto Chemical Co., St. Louis.

H. D. Lederer, R. M. Hollingshead Corp., Camden, N. J.

Russell G. Puhle, Tykor Products Div., Borden Co., New York.

**Reports on Aerosols**

THE Aerosol Division meeting, following the appointment of a nominating committee by H. E. Peterson, Continental Filling Corp., Danville, Ill., chairman, opened with the presentation of a paper, "Product De-

sign in the Aerosol Industry" by Gerald C. Johnson of Gerald C. Johnson Associates, New York. He discussed the role of the designer in the production of the aerosol product.

Methods for preventing the separation of wax from aerosol mixtures, and the development of methods for minimizing or avoiding thermal lump formation were described in the paper: "Stabilization of Wax Aerosols" by B. J. Eiseman, Jr., of E. I. du Pont de Nemours & Co., Wilmington, Del. (This paper begins on page 106 of this issue). A "Rapid Method for Determining Volatile and Non-Volatile Ratios of Aerosol Formulations," was described in a paper by Clarence Clapp of Continental Filling Corp., Danville, Ill. The method is a compilation of parts of the various methods now used, but with an attempt made to increase accuracy and shorten the analysis by eliminating unnecessary operations.

Dr. R. E. Treichler of the Military Planning Section, Department of the Army, Office of Quartermaster General, Washington, D. C., in discussing "The Army Aerosol Program" pointed out that the "direction of development in the field of aerosols for military use will be confined to overcoming deficiencies existant in current models and towards obtaining an item of optimum effectiveness and durability. It is anticipated that the present design and formulation will be maintained with changes being made only when production knowledge, field use, and results of research indicate changes. No radical changes are anticipated." He further pointed out that insecticide aerosol requirements for the military will continue to be of the low pressure type. The volume required will depend entirely upon the world military situation. Yearly use of the one-pound aerosol dispenser since its development and introduction in 1943 was given by the speaker as follows:

Year	Number Used
1943	3,126,000
1944	10,000,000
1945	9,985,000
1946	761,000
1947	808,000
1948	405,000
1949	397,000

**Speakers on Disinfectants**

THE need to plan a detailed market analysis of the industries in which quaternaries may be sold was indicated in the paper "Some Aspects of Marketing Quaternaries" by Irving Gaines of Onyx Oil & Chemical Co., Jersey City, N. J., in the first paper of the Disinfectant & Sanitizers Division meeting. The "marketing analysis will reveal the factors which will determine the potential use of the product in a particular industry," the speaker declared. He also showed a model questionnaire to be used in market surveys. This type of questionnaire brings best results when used in direct investigation and personal interview, as opposed to mail or telephone interviews, Mr. Gaines said.

The effectiveness of various types of disinfectants in destroying the tubercle bacillus was reported in the paper, "Disinfectants for Tuberculosis Hygiene" by C. Richard Smith, M.D. of Barlow Sanitorium, Los Angeles. "With rare exceptions, soaps and synthetic detergents, including anionic, non-ionic and cationic surface-active agents, are not good killers of tubercle bacilli," Dr. Smith said. "This applies even to quaternary amine salts," he added. "The phenols have been for many years and still are the disinfectants of choice in tuberculosis hygiene," Dr. Smith stated, adding that "next in value are the alcohols."

The control of air borne bacteria through the use of "Osyl" disinfectant, made by Lehn & Fink Products Corp., Bloomfield, N. J., was reported on by Edward Dunklin of the University of Chicago. The most effective method controlling air borne bacteria is in secondary reservoirs and with the use of "Osyl" and triethylene glycol.

The user's view of the manufacturer and/or seller of chemical specialties was discussed in a talk, "What the Building Superintendent Expects of the Chemical Specialty Manufacturer" by Thomas R. M. Coull, superintendent of the Board of Trade Building, Chicago. He said users prefer to get the "plain unvarnished facts about new products" and suggested that

more and better literature on maintenance products and their applications be made available by manufacturers.

### Insecticide Discussions

THE following six recommendations pertaining to housefly control were made in the opening paper ("Where Are We Going with Fly Resistance?") at the Insecticide Division meeting by Dr. George C. Decker, entomologist and head of the section of economic entomology of the State Natural History Survey, Urbana, Ill.:

1. Good sanitation should be emphasized as the first and most important step in fly control.

2. Screens and other devices should be used to the limits of their practical value.

3. The non-residual space sprays should be used where practical.

4. The use of mixtures containing several residual type insecticides should be avoided.

5. Residual type sprays should be applied in a manner that will not contaminate straw, manure and other fly breeding media.

6. If larvacides are used, they should not be closely related chemically to any of the residual type sprays.

John D. Conner, general counsel of CSMA, summarized a 58-page report he had prepared on the current status of the two Washington insecticide tolerance hearings and gave an off-the-cuff 15 minute review of the situation as of the moment. Outlining the steps required before any Food & Drug Administration action can become legally effective, he indicated that this would have to be quite some time in the future. Mr. Connor expressed his belief that the Delaney committee had started out on the assumption that the spray residue question was a brand new matter, never before investigated. Analyzing this committee's interim report, he presented the various possible lines of action which appear to be contemplated. In evidence submitted to date, he said, too much stress has been placed on the contention that pesticides must be used and that some residue will result. There is great need, he insisted, for more evidence on why insecticides must be used. This point, he sug-

gested, must be given more attention by the industry in the newly re-opened hearings.

### Allethrin Symposium

IN a symposium on allethrin, Dr. Robert C. Haring of John Powell Labs., Port Jefferson, N. Y., reported on the CSMA cooperative testing project which was started since last fall's surprise announcement that this compound has been doing an excellent job in aerosol bombs for use by the armed forces. Work has been done from both the functional and the physical standpoint of allethrin in relation to other compounds used in aerosols, he said, and this work has demonstrated that seller, buyer and consumer will be adequately protected.

John H. Fales of the Bureau of Entomology and Plant Quarantine, U.S.D.A., continued with a brief report on some work done in government laboratories since allethrin in aerosol bomb combinations was first announced. One finding, he said, was that as the amount of allethrin used is increased, it far exceeds the effect of pyrethrum. To guide the industry, he announced, a list has been compiled showing what combinations have been approved, "if you can get the allethrin." Use of allethrin and also lindane, in aerosols, he remarked, "has greatly helped the cost picture." On the matter of storage life, he said, some of the first packages, when tested for toxicity, were found, up to 15 months, as potent as fresh formulations, with no loss in performance.

Since all available supplies of allethrin have been reserved for the armed forces, keen interest was taken in the prospects for the commercial availability of the compound. Only about 8,500 pounds have been made since production of allethrin was first started, according to Dr. H. L. Haller, assistant chief, B.E.P.Q., who served as moderator of the symposium. Three companies, he said, have filed for certificates of necessity from the National Production Authority, but he did not know what volume they expect to produce. He warned, too, that to produce one pound of allethrin requires 200 pounds of 25 different chemicals. Should just one of those 25

be in short supply or unavailable, the production picture would become complicated, he pointed out.

### Detergent Specialties

WHAT is ahead for soaps and synthetic detergents and raw materials and equipment needed to produce them was discussed in the paper, "Soaps and Syndets—Present and Future" by Dr. Foster D. Snell and Cyril S. Kimball of Foster D. Snell, Inc., New York. The paper, which was read by Mr. Kimball, opened the meeting of the Soaps, Detergents & Sanitary Chemical Products Division.

With the development and introduction in the past few years of a number of optical bleaches or whitening agents as soap additives, it has been necessary to devise methods of evaluating them. The "Photometric Evaluation of Brightening Agents" was discussed in a paper by John P. G. Beiswanger and Henry Hemmendinger of the central research laboratory of General Aniline & Film Corp., New York. The paper pointed out that complete evaluation cannot be made on the basis of physical data alone, but must be coupled with visual observation of deleterious colors developed at high concentrations.

Non-ionic detergents, heretofore available mainly in liquid form, now commercially produced in solid form, were covered in the paper, "Detergency Properties of Systems Containing a Solid Non-ionic Detergent" by H. R. Suter and M. G. Kramer of Wyandotte Chemicals Corp., Wyandotte, Mich. The fundamental detergency properties of systems containing a solid non-ionic detergent which may be formulated in any proportion with other solids to form free flowing products were studied and reported on in this paper. Carbon soil removal and whiteness retention properties of the ternary system comprising solid non-ionic detergent-anionic detergent-sodium carboxymethyl cellulose indicate that such mixtures are particularly suitable for hard water detergency. The fundamental detergency data for this system is of value in the selection of an organic detergent base for use

in conjunction with builders or further formulation into a completely built detergent. Studies made of the detergency properties of such a detergent base in conjunction with sodium tripolyphosphate and soda ash were discussed. From this data a formulation was chosen for further study to illustrate the detergency properties of a completely built detergent containing a solid non-ionic. Data for this composition indicate it to compare favorably with materials having proved effectiveness for cotton detergency in either soft or hard water.

The chemical structure of the surface active agent is relatively less important in painted surface cleaning than with cotton soil detergency, but concentration of solution has considerable bearing upon cleaning, according to the paper, "Hard Surface Cleaning" by Jay C. Harris of the central research department of Monsanto Chemical Co., Dayton, O. Flat surface cleaning in general appears to require lesser amounts of surface active agent than for cotton soil work, and the concentrations used are apparently higher than for cotton fabric cleaning. In comparison of the painted panel or metal cleaning test with cleaning of soiled fabrics, the process is probably much less complex because of the difference in the relative surface areas involved. A further difference, according to Mr. Harris, at least in the painted panel test, is that the scrubbing action is tremendously more vigorous than in usual metal cleaning operations or cotton fabric washing. The difference in the extent of applied mechanical action carries over to practical operations, the author concluded.

#### Floor Wax Reports

**A** PROGRESS report on an investigation of the problem of detecting additives in vegetable waxes was reported on by Charles J. Marsel. His presentation, "The Detection of Additives in Vegetable Waxes" by Marsel, Cyril S. Treacy and Rino L. Godino, was given before the Waxes & Floor Finishes Division. Mr. Marsel pointed out that there are many methods for detecting additives in vegetable waxes, but from the standpoint of simplicity and general usefulness, the

technique of solvent leaching followed by specific tests on the extracted residue holds most promise. The extracted residue may then be examined qualitatively and quantitatively. This is done by: 1.) weight of residue compared with normal weights of extract; 2.) acid number; 3.) saponification number; 4.) special tests, as concentrated sulfuric acid extraction to indicate paraffins.

The question of what constitutes a good delivery of carnauba wax was discussed in a paper by R. E. Sievert and John Marvinny of Frank B. Ross Co., Jersey City, N. J. It is not a question that "any one of us can answer convincingly," it was pointed out. The final decision of what constitutes an acceptable delivery of carnauba wax is a matter to be judged ultimately by the wax manufacturer for his own particular end use. "After knowing (the wax manufacturer's) individual requirements, (the importer) can only try to select a suitable delivery from the wax . . . available," Mr. Marvinny stated. "At times, this is quite difficult." He also pointed out that importers of wax "are faced with the fact that (they) are obliged to accept from the Brazilians the carnauba wax that is available under present methods of commerce, although (they) know that each shipment will not meet the approval of every (wax manufacturer). Fortunately (for the importer), consumers' requirements and formulations differ, so . . . a shipment that may not satisfy one consumer may satisfy another." Changes in grading of carnauba since 1902 were reviewed by Mr. Marvinny. He outlined the reasons for these changes and reviewed the basis for rejection of carnauba shipments.

The use of chromatographic procedures to investigate the composition of oxidized microcrystalline waxes was discussed in the paper, "Simple Methods for Separating Wax Constituents into General Chemical Groups by Displacement Chromatography" by R. L. Broadhead, Betty Gericke and E. A. Wilder of S. C. Johnson & Son, Inc., Racine, Wis. Chromatography was used originally to separate plant pigments from each other. It provides a simple and very effective method for

the determination of many of the constituents as they actually and naturally exist in waxes. Such analyses would be exceedingly difficult and for some of the compounds virtually impossible by ordinary chemical means, according to the authors.

#### Emulsion Problems

**A** N EFFORT to systematize the approach to emulsion problems, now largely determined by trial and error aided by practical experience was described in the paper, "Wax Emulsions Formulated by HLB," by R. W. Behrans and W. C. Griffin of Atlas Powder Co., Wilmington, Del. The term HLB comes from the words hydrophilic-lipophile balance, and denotes the relative balance of strength between the hydrophilic and lipophilic portions of the surface active agent molecule. Using this system, emulsifiers are classified by an empirical index, or HLB number, which characterizes the hydrophilic-lipophilic nature of the material, and permits some prediction of its behavior in an emulsion. An equally important phase of the HLB concept is the classification of the materials to be emulsified, the authors pointed out. Waxes and oils may be classified by the HLB of the emulsifier which is required for a given application.

"Very great strides have actually been made as far as the instrumentation for gloss measurements as such is concerned," according to B. A. Silard of Photovolt Corp., New York, presenting the paper "Latest Developments in the Field of Gloss Measurement." The "method's usefulness in the field of paints, varnishes, etc. does not require much more development, if any at all. In the field of waxed coatings, however, a good amount of work will have to be done on the proper method of preparation of the samples," Mr. Silard stated.

#### Government Officials Speak

**F**Ollowing luncheon April 30, the first of two general open discussion sessions was held. Opening the session was the report of Secretary H. W. Hamilton, who reviewed the activities of the association during the past year. He described the work the

organization has been doing in the matter of seeking just and workable laws pertaining to insecticides, disinfectants, rodenticides, etc. Conferences with government agencies and the work of keeping members informed on the activities of these agencies were outlined by Mr. Hamilton. He also noted that the number of bulletins sent out by the association had more than doubled through the first four months of 1951, compared to the previous year.

The session concluded with informal discussions and the answering of questions relating to their activities by such government personnel as Lincoln A. Schleuter of the National Production Authority; L. N. Markwood of the Department of Commerce and NPA; Mrs. Laura G. Arrington, insecticide specialist of the Department of Commerce and NPA; C. G. Gran of the Economic Stabilization Agency; Charles G. Lavin of the U. S. Public Health Service, and Melvin Goldberg, NPA consultant.

Quartermaster procurement of chemical specialty items was the theme of the general session the morning of May 1. Participating were Major Walter M. Trauger, chief, Industrial Planning Staff, General Supplies Branch, New York Quartermaster Purchasing Agency, New York; Col. O. E. Thomas of the Munitions Board, Office

of Small Business, U. S. Department of Defense, Washington, D. C. and Theodore Kapela, a consultant of the Munitions Board. Major Trauger discussed Quartermaster expenditures for chemicals since the end of World War II. He described some of the difficulties his agency has in procuring supplies, singling out dishwashing compound as one item on which too few companies are bidding. Mildew preventive tablets, supplied by only one firm, might present difficulties in the case of an emergency, Major Trauger stated. He added that the Quartermaster Procurement Agency is anxious to have as many reputable companies as possible competing for its business. Procedures in bidding were described fully by the speaker. He also mentioned the reasons why negotiated rather than formally advertised contracts are necessary in some cases. He suggested a check list for use in making quotations on invitations-to-bid or on negotiated proposals. He concluded by urging the cooperation of manufacturers "not only in the large procurement involving desirable items, but, in the day to day buying of the so-called 'dog' items."

#### Industrial Mobilization

THE main event of the group luncheon May 1 was a discussion, "Industrial Mobilization Planning

H. W. Hamilton, newly elected C.S.M.A. manager, receives engraved wrist watch from L. J. Oppenheimer, C.S.M.A. president, at luncheon, April 30.



MAY, 1951

"Versus Current Procurement" by Col. James B. Colson, chief, Industrial Planning Coordinating Office, New York Quartermaster Procurement Agency, New York. He pointed out that the "Mobilization picture today is one which portrays a complete realignment of the national emergency. This realignment is designed to divert a sizeable portion of the production potential of American industry from producing civilian items to producing military end items and equipment necessary to support the military preparedness measures of the nation," Col. Colson stated. "The scope of conversion of American industry is extensive because it involves not only the development of production capacity required to produce the weapons, equipment, materials and supplies needed to equip an armed force to upward of about 3,500,000 men, but also the development of production knowledge, techniques and potential which will be necessary to support an all out mobilization of military strength in the event of a declaration of war."

#### Insecticide Aerosols

THE "Evaluation of Liquefied-Gas Aerosols" was given by R. A. Fulton, R. H. Nelson and A. H. Yeomans of the Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, U. S. Department of Agriculture, Beltsville, Md. It was the first paper of the joint Insecticide and Aerosols Divisions meeting, May 1. In his presentation Mr. Fulton pointed out that the safe and effective use of liquefied-gas aerosols requires careful appraisal of the ingredients used as toxicants, solvents and propellents. The utility of aerosols is dependent also on the size of the particles and the efficiency of the dispenser. In the paper, Mr. Fulton reviewed particle-size determination, nozzle and valve design, biological evaluation and toxicological effects.

Another feature of the joint session was the report by Dr. L. S. Henderson of the U.S.D.A. Division of Insects Affecting Man, on gas propelled application of repellents to clothing for protection against mosquitoes, fleas and ticks. To this he added a brief preliminary report on

moth proofing by the same gas-propelled method. In one test involving four formulations of various chemicals, application was made to cotton stockings which were worn eight hours, then washed and this cycle repeated several times. Pressure propelled repellents, it was concluded, are equal to or superior to acetone application with which the new process was compared. Army uniforms were also used in tests and other materials were tested against mites. Data were submitted on durability of the formulations, measured in number of days the solution remained effective after washing or with no washing.

It would appear, Dr. Henderson stated, that the greatest use of the new gas-propelled method would be in making skin applications of the repellents. It is very important, he pointed out, to get a uniform film of repellent on the skin. Tests showed, he said, that direct application to the skin is convenient, efficient and highly successful. In any commercial adaptation of the gas-pressure process, he suggested that consideration must be given to the size of the container which would be acceptable to the public and also serve the purpose. Lack of a suitable container, he warned, might counteract the favorable features of the new process. Something would be needed that would be convenient to carry in a hunter's jacket pocket or in a fisherman's tackle box. A tall, slender container, rather than a short, squat one might be advisable, he suggested.

Speaking of possible competition with bottled liquid repellents, he said there should be as much repellent as possible in the container, with only enough gas to break the solution up at the nozzle. With increased pressure, considerable solution was found to rebound and become lost on striking the skin.

In tests of gas pressure application on moth proofers, three different sized containers were used, with different formulations. The solution rebounded from fabrics and less than 30 percent stayed on the cloth. There was no damage to treated cloth, but more testing and study is needed before the process can be recommended.

However, fairly satisfactory protection can be expected, Dr. Henderson stated. Among matters requiring further study he listed concentrations, discoloration of fabric, penetration, rate and amount of deposition, type of crystal formation and possibilities for additives to control crystal formation.

Following Dr. Henderson, the work done by Bridgeport Brass Co. in developing an aerosol ant killer was reported briefly by Wm. E. Baulieu of that company. Melvin Goldberg served as moderator of another symposium which attempted to explore the outlook for materials, equipment, etc., in the days ahead. Because of the extreme uncertainties, few positive predictions were voiced.

#### Aerosol Situation

**H.** E. PETERSON of Continental Filling Corp., Danville, Ill., chairman of CSMA's insecticide division, in reviewing the April 6 revision of order M 25, regarding allocation of tin plate, said the changes made have not had too serious an effect on the aerosol industry to date. Black plate will, however, have to be used on aerosol container bottoms when present inventories are exhausted. Difficulties, he said, can be taken care of by appeal and, judging from past experiences, if appeals are based on sound, logical reasons, they will be given sympathetic attention in Washington. He also pointed out that if one quarter's allocation is not exhausted, any surplus will automatically become available in the succeeding quarter. The valve situation is more critical, he said, due largely to the brass supply, or lack of it.

Dr. George Fiero of Esso Standard Oil Co., New York, offered a word of encouragement in his assertion that although the Washington situation is extremely confused and no one seems to know what is going on, it is no worse than it was early in 1942. The confusion then, he reminded, was eventually straightened out and reduced. If manufacturers of aerosol bombs for civilian use run into difficulties, he suggested that, when writing the claimant agency, they also send carbon copies of their letters to

Charles Lubin of the U. S. Public Health Service.

#### Markwood on DDT Outlook

**L.** N. MARKWOOD of the National Production Authority appealed to manufacturers to exhaust their own resources first before coming to Washington. "We do stand ready to help you when your own measures will not suffice," he said. Regarding the outlook for DDT, he said, the country's production capacity is about 100,000,000 pounds and could go to 120,000,000. Since a reasonable estimate of needs for aerosol makers is about 1,000,000 pounds, he felt that they will not have much difficulty in getting adequate supplies.

NPA, he went on, is trying to get more benzene and chlorine for DDT makers and "practically everything," he declared, "is sailing along under clear skies." The chlorine picture, in particular, he felt, is much better than last fall, since more production capacity is coming in. Pyrethrum, he continued, must be conserved for use where nothing else will do. No complaints have been received on rotenone, which "seems to be going along well." He had no figures on chlordane, but production was reported holding up "pretty well." Availability of toxaphene is "pretty good," because, as he said, the producer was far-sighted in expanding facilities in Mississippi. Other issues, he concluded "will have to be faced as they are presented to us."

#### Quaternary Testing

**A** BIOLOGICAL test, applicable to such fast acting germicides as the quaternary ammonium compounds was the subject of the first paper of the Disinfectant and Sanitizers Division meeting the afternoon of May 1. It was described in the paper, "Cessation of Bacterial Motility as a Rapid Test for Germicidal Action" by Leon Buchbinder and Peggy Zaretsky, Bureau of Laboratories, Department of Health, New York City. The principle of the test, according to Dr. Buchbinder, is simple. "A motile strain of bacteria is mixed with diluted germicide. This mixture is placed under a microscope and examined. Prac-



Newly elected divisional chairmen, who take office in December are: (Left to right) Herbert L. Sanders, Ninol Laboratories, Chicago, Soap, Detergent & Sanitary Chemicals; William X. Clark, Sterwin Chemicals, Inc., New York, Disinfectant & Sanitizers; Edmond

G. Young, Kinetic Chemicals, E. I. du Pont de Nemours & Co., Wilmington, Del., Aerosol; James A. Green, Standard Oil Company of Indiana, Chicago, Insecticide; Donald M. King, Masury Young Co., Boston, Waxes & Floor Finishes.

tically instantaneous cessation of motility occurs in the presence of a sufficient quantity of quaternary ammonium or chlorine compound. In the presence of insufficient quantities there may be a partial or no discernible cessation of motility. The effect is dramatic and easily recognizable when the treated suspension is compared with a control untreated suspension."

The results of toxicological studies conducted on phenylphenols, employed extensively in various fields for the control of microorganisms, were reviewed in the paper, "Toxicological Properties of Certain Phenylphenols" by V. K. Rowe of the biochemical research department of Dow Chemical Co., Midland, Mich.

The results of the investigation as explained by Mr. Rowe follow:

"o-phenylphenol ('Dowicide 1'), 2-chloro-4-phenylphenol ('Dowicide 4'), and chlorinated o-phenylphenol ('Dowicide 32') as 5, 5, and one percent sesame oil solutions, respectively, and the sodium salt of o-phenylphenol ('Dowicide A') and the sodium salt of chlorinated o-phenylphenol as 0.1 per cent aqueous solutions produced neither primary skin irritation nor skin sensitization when tested on 200 human subjects by an accepted technique. Higher concentrations of the salts (one per cent or more) in water were significantly irritating upon prolonged and repeated skin contact. No evidence was observed to indicate that any of these phenylphenols were absorbed through the skin of rabbits in toxic amounts.

"The materials, undiluted, or in concentrated solutions particularly of the salts, are capable of causing serious eye injury. Dilute solutions such as are employed as disinfectants

are not likely to cause more than transitory pain and conjunctivitis. The toxicity of these phenylphenols when given orally in single doses has been found to be low: the calculated LD<sub>50</sub> values for rats being of the order of 2.5 and 3.5 g./kg. for o-phenylphenol and chlorinated o-phenylphenol, respectively, and 1.2 g./kg. for the sodium salt of o-phenylphenol. 2-Chloro-4-phenylphenol and its sodium salt have been administered 20 times in four weeks to rabbits at dosage levels of 0.1 g./kg. without causing any apparent ill effects. Ortho-phenylphenol has been administered to rats as a part of their diet for two years at a concentration of 2,000 ppm and to dogs at a dosage level of 0.5 g./kg. for one year without adverse effect."

The psychological and chemical aspects of odors and their control were described in the paper, "The Nature of Stinks" by Ernest C. Crocker of Arthur D. Little Co., Cambridge, Mass. "What the Public Health Service Expects of Germicides" was described in the paper of that name by Luther A. Black, chief, Milk and Food Sanitation Section, Research and Development Branch, Environmental Health Center, Cincinnati. Properties listed by Mr. Black included the ability to kill bacteria, as demonstrated by appropriate tests; equipment or utensils treated with a solution of the recommended concentration should not retain a sufficient amount to cause either chronic or acute toxicity; relatively odorless, if used for milk or food; relatively soluble in water; non-irritating to skin; non-corrosive to equipment; active in a practical concentration; and should kill non-spore-forming bacteria in a

reasonable time and under temperature and pH conditions to be anticipated, as well as in the presence of any organic or inorganic substances or other factors present that may adversely affect a specific chemical. In addition, the speaker pointed out that it is particularly important in the control of sanitation practices to have a rapid and accurate field test to demonstrate the presence of an adequate active residual of the chemical germicide.

### Detergent Developments

THE non-ionic surface active agents in detergents for dry cleaning show excellent cleaning ability, high whiteness retention, no odor development, good emulsifying properties of the desired type and economy in use, it was stated in the opening paper of the Soap, Detergent and Chemical Products Division meeting the afternoon of May 1. In the paper, "Non-Ionic Surface Active Agents in the Dry Cleaning Industry," George E. Barker and Humbert J. Ranaut of Atlas Powder Co., Wilmington, Del., pointed out that non-ionic detergents are useful also in wet-cleaning. Here they show excellent detergency on many types of fabrics; are non-injurious to dyestuffs, and are useful in acid or salt solutions.

The "Impact of Synthetic Detergents on the Fat and Oil Market" was discussed by John W. McCutcheon, independent consultant of New York, who is under contract with the Department of Agriculture to do re-

search on new and additional ways in which tallow may be used in industry. The successful development of improved "Milled Toilet Bars from Synthetic Detergents" was described by Dr. V. J. Keenan of Atlantic Refining Co., Philadelphia, in a paper of that name. (His paper begins on page 27 of this issue.)

#### Slip of Floor Waxes

**A**PANEL discussion of the "Field Testing of Wax Floors for Slip Characteristics" was the opening feature of the meeting of the Waxes and Floor Finishes Division the afternoon of May 1. S. W. Gurney of Liberty Mutual Insurance Co., Boston, reviewed some of the background as to why casualty insurance companies are interested in slipperiness of floors. He pointed out that after years of testing various brand-name floor waxes, he felt that it was not necessary to have a machine to determine whether or not a floor is slippery. A "moderately well worn leather shoe sole on the end of an experienced leg will give the answer as well as a machine," he stated. He also made some observations as to how slipperiness of floor finishes can be reduced.

S. V. James of the Underwriters Laboratories, Inc., Chicago, in his contribution to the symposium described the procedure he would follow in determining whether or not a given waxed floor is acceptably safe. Mr. James stated that the technique described and illustrated by him is "based on a definite notion as to the mechanical nature of the walking process." Using the method, he said, one can "distinguish readily between different waxed surfaces."

His experiences in the field testing of floor finishes by measuring with a dynamic slip tester the relative slip resistance of floor areas in actual service before and after being coated with floor finishes were described by Percy A. Sigler of the National Bureau of Standards, Washington, D. C. In his paper, "Field Testing of Floor Finishes with Dynamic Slip Tester," Mr. Sigler told of field tests on floor finishes conducted at the Pentagon building in Washington.

In his contribution to the sym-

posium, William H. Joy of American Telephone & Telegraph Co., New York, described the methods used by his company for field testing of waxed floors for slip. A new method has been developed by AT&T, which has considerable merit in the opinion of Mr. Joy. In connection with this test, since slip resistance of the waxes is to some extent dependent on such factors as age of film and relative humidity, the tests should always be made on a comparable basis, he stated.

"The results of the Mass Sample Technique is the most dependable and successful method of pre-determining performance of the (wax) product when it reaches the market," in the opinion of Frank J. Pollnow, Jr., Vestal Laboratories, Inc., St. Louis. The technique consists of testing the product in use on the floors of a selected group of customers." The group is necessarily limited, but it must be adequate, and the types of consumers must be selected so as to provide a representative sample of the manufacturer's overall market. Standard statistical methods applied to the manufacturer's own sales picture will reveal whether or not the proposed sample is truly representative of the manufacturer's overall market," the speaker stated.

#### Advices on Floor Care

**T**HE maintenance problem with vinyl floors is mainly one of finding the particular "cleaner or cleaners that will give the most effective results in the quickest time and with the least effort," according to A. W. Biggs of Goodyear Tire & Rubber Co., Akron, O., whose paper was entitled "Problems of Installation and Maintenance of Vinyl Floors." He pointed out that "no cleaner or soap of standard manufacture (proves) injurious to the type of vinyl flooring" manufactured by his company. Because the surface of vinyl flooring is so non-porous, "waxes will not even properly adhere" to them, and so are not recommended for use on vinyl, Mr. Biggs said.

Methods and materials used in "Gymnasium Floor Maintenance" were described in a paper by Earl Brenn of Huntington Laboratories.

Huntington, Ind. (His paper begins on page 117 of this issue.)

George Flanagan of Federal Varnish Div., Chicago, in the paper "Terrazzo Sealers," pointed out that "terrazzo is to some extent similar to wood flooring in its variation in porosity. Penetrating sealers are recommended for sealing wood—followed by a finish coat of similar type or of some other protective material," he stated, adding that "the same approach can be followed with reference to materials for terrazzo." In conclusion Mr. Flanagan pointed out that "the clear, non-yellowing type of sealer meets more exactly with the requirements of the Terrazzo Association than other types."

Although there have been a number of chemical specialty items including silicone fluids in their make-up, the field of application has hardly been touched, in the opinion of Walter J. Dugan of General Electric Co. In the paper, "Silicones in Chemical Specialties," he pointed out that the silicones have four basic properties which make them useful: 1.) resistance to heat and cold; 2.) outstanding release properties; 3.) useful surface characteristics; 4.) inertness. In addition to the present methyl and phenyl types, "other silicones containing a wide variety of different chemical structures may some day be available," Mr. Dugan predicted.

#### Fluid Appoints DeWitt

The Fluid Chemical Co., Newark, N. J., recently announced the appointment of Albert H. DeWitt as vice-president and general manager of operations. Before joining Fluid Chemical, DeWitt was the packaging and production manager of all finished products at Hoffman-LaRoche, Inc., Nutley, N. J.

#### Mathieson Names Synan

John F. Synan was appointed recently as manager of the product development department of Mathieson Chemical Corp., Baltimore. He has been with the firm since 1939. Mr. Synan reports to Dr. George P. Vincent, director of product development.



## GYM Floor Sealers

**G**YMNASIUM floor maintenance is very interesting because no two floors are alike. There are so many variables involving the condition of the floor, the use to which it is put, and the different types of equipment and maintenance products available at each institution that the possibilities are almost endless.

The gym floor may be an old oiled wood floor, a freshly sanded floor, a sealed floor that has had a fair amount of wear, or an old varnished surface with dark areas of built-up film. The floor's use may be restricted to gym-shoe traffic or it may be the Community Hall where picture shows and dances are held. And when you go out into the field on a particular job, you find that the absence or pres-

\* Paper presented before 37th mid-year meeting Chemical Specialties Manufacturers Assn. Chicago, April 30.

**By Earl Brenn\***

Huntington Laboratories, Inc.

ence of a floor machine, vacuum cleaner, hot water, various mopping equipment, etc., has a very definite effect on how you must perform each job.

To organize this subject I will consider it under the four following categories: A. sealing gymnasium floors, B. renovating gymnasium floors, C. upkeep of gymnasium floors, D. the Manufacturer's responsibility.

### **A. Sealing Gymnasium Floors**

**W**HEN one speaks of gymnasium floors, one is almost always talking of a wood floor. (The number of concrete and asphalt-tile gym floors is negligible.) The gym floor must be sealed because any untreated wood floor will soon dry out, get dusty and

commence to crack and splinter. Scrubbing opens the surface pores creating countless dust traps. Unsealed wood is very susceptible to moisture which rots it readily.

There are two distinct types of wood sealer available. One is a low viscosity product that builds up a dull sheen on the floor, while the other is a thicker material which builds up a high-gloss finish. The low viscosity material is often referred to in the trade as heavy duty sealer, or penetrating sealer. The high gloss material often called gym finish, or simply, finish should always be used where the floor is subjected mainly to gym-shoe traffic. Penetrating seal (heavy duty finish) is used where the gym floor is subjected to a large amount of street-shoe traffic.

The first step in the application

FOR MAKING WAX-RESIN BLENDS...

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DUREZ RESINS

● Among the recent advantages that manufacturers of no-rub emulsion waxes have obtained with resins developed by Durez are the economy and convenience of wax-resin blending in steam-jacketed kettles.

Having inherent properties that are especially desirable in wax-resin blends, these resins offer excellent compatibility with carnauba and candelilla, and the micro-crystallines. Their ability to bring about a combination of hardness and slip resistance when blended with the true waxes is outstanding.

#### Concentrations of 25% to 50%

Excellent stability, gloss, water resistance, and wearability are consistently obtained in properly formulated resin-blended polishes. Current practice is

to use Durez resins in concentrations of from 25% to 50% of the total wax and resin portion of the emulsion. Thus resins replace a very substantial part of the waxes, effecting an economy that has benefited purchasers of millions of gallons of polish.

#### Used in Conventional Kettles

Blending by the wax emulsion manufacturer using ordinary steam-jacketed equipment is common practice since Durez introduced the modified 13560 and 14140 resins. These two resins have a melting point of about 90°C. and are emulsifiable and compatible with both vegetable and mineral waxes. Their hardening properties are particularly advantageous in formulations containing micro-crystalline waxes. Durez

14140 resin, which is made from a higher melting point base resin, produces harder films with less tack. These resins are modifications of Durez 219 and 225 resins, which have a long record of service in the wax polish industry . . . 219 melts at 135°C. and 225 at 155°C.

#### Send For Experience Data

The facilities of our Customer Service Laboratory are always at your command for consultation. We also have compiled some practical suggestions based on our extensive research work on formulations and methods of making emulsions and controlling properties. A copy is available on request. Write Durez Plastics & Chemicals, Inc., 405 Walck Road, North Tonawanda, N. Y.



PHENOLIC  
RESINS

MOLDING COMPOUNDS  
INDUSTRIAL RESINS  
PROTECTIVE COATING RESINS

PHENOLIC RESINS THAT FIT THE JOB

of a seal to a freshly sanded gym floor is the removal of dust. This is done before applying any finish. Dust is left by the sanding machine and also is produced and must be removed after hand sanding or steel wool buffing between coats of sealer. A tack rag, damp towel or commercial type vacuum will do a fine job of dust removal.

Tack rags, as they are known in the finishing departments of furniture manufacturing companies, are used to wipe off the surface to which the finish is to be applied. They consist of cloths just lightly wet with a sealer. Through their use fine particles of dust are collected and removed, leaving a dust-free surface. Dust may also be removed by placing a damp turkish towel under a wide floor brush and pushing it across the floor. By shifting the towel under the brush and turning it over, clean surfaces are constantly presented to the floor. The towel picks up dust that otherwise would be apt to remain after ordinary brushing.

The next step is to divide the floor into imaginary strips. The best plan, in most cases, is simply to divide the floor area into imaginary strips of about six feet wide, running in the same direction as the boards, and extending the entire length of the floor. Start at one corner and seal the strip from one end of the floor to the other. Then go back to the end of the floor where the sealing started and seal the second six foot strip next to the first. Repeat this operation until the whole floor is sealed, always remembering to start sealing each strip from the same end of the floor. Work must not stop until the entire coat is completed or lap-marks will appear.

On the first coat rub seal in well. When applying finish to a freshly sanded floor for the first coat it is advisable to rub the seal across the grain first, then with the grain, finally, carefully smoothing out the finish with the grain.

It is desirable to use steel wool on the finish between coats. This removes the dust which always settles into a wet finish, and the accidental bubbles or heavy spots that occasionally result from application. A smooth-

er, better looking floor will result. The thoroughly dry seal can be buffed with steel wool using a floor machine equipped with a Number 2 or 3 steel wool donut placed under the wire brush. Traverse the whole length of the floor at an ordinary walking gait. Half-lap each traverse. This operation requires only a few minutes. The floor can also be buffed with steel wool by hand by fastening steel wool to a "Holzem" applicator or to any type of clamp style mop block. Be sure to pick up the dust raised by the steel wool as explained above.

Hand-sanding between coats accomplishes the same purpose as buffing with steel wool. Use Number  $\frac{1}{2}$  applicator or other suitable holder.

After the first coat of seal is dry, score the lines on the floor and paint.

Clean lambswool pad after sealing. After using the lambswool pad be sure to wash it out with naphtha, or cleaner's solvent or it cannot be used for the next coat. The pad can also be stored in a jug full of solvent. Seal cannot be removed from the pad once it is dry.

Seal must be stored in air-tight containers which are full. Seal should not be allowed to remain for long periods in a partly filled container or a loosely closed container. It will set up in the presence of air and cannot be thinned out by any means. Even if the plug is tightly closed, you will find that 15-gallons of seal in the bottom of a 65-gallon drum will get enough air out of the empty portion of the drum to set up solidly. A good rule to follow is to ship all seals in 5 gallon cans only.

During cold or damp weather seal dries very slowly. Under such conditions the heat should be turned on. The temperature should be maintained at 70°F. or higher for quick drying. If the final coat appears tacky, after having had sufficient time to dry, and fast drying is necessary, dip a clean mop into two gallons of ice water containing about 2 ounces of ammonia. Wring mop partially dry and apply to the floor. If seal is placed over oil or wax, it may take a month

or more to dry. Concrete gym floors are treated the same as wood floors, with the same type of sealers.

Asphalt gym floors present a serious problem. This flooring material is particularly unsuitable for gym floors and yet occasionally is specified for the purpose, usually to the sorrow of the institution involved. The surface must be treated or it presents an unsightly and unacceptable appearance. It cannot be sealed with gym finish or penetrating sealer because the solvents in such products are harmful to asphalt tile. With care, conventional sealers may be applied to asphalt tile. But after a few years when the seal has built-up and darkened, the floor cannot be renovated, because sanding or the use of varnish removers is not practical. The newer asphalt tile sealers appear to be an answer, yet the Asphalt Tile Institute approves no asphalt tile sealers. The only approved asphalt tile finish is self-polishing wax and no wax yet produced has enough anti-skid properties to permit the successful playing of basketball on a surface so treated. A practical solution is to use an anti-skid asphalt tile sealer containing no solvents or other harmful ingredients and which can be scrubbed off with ordinary solutions and the usual equipment when refinishing is required.

#### B. Renovating Gym Floors

HERE are three methods by which a gym floor surface may be renovated: sanding, scrubbing, application of varnish remover. When the boards are warped and cupped, or if the surface is quite rough and is soiled with deeply imbedded dirt, sanding may be required. Sanding removes the top layer of wood, presenting a new wood surface that is treated as a new floor.

Correct scrubbing is possible on nearly any floor except one which is warped or cupped, or is discolored by old seal or varnish. Scrubbing even removes floor oil and other types of heavy soil. After a floor has been sanded a few times, the tongue and groove joint may not be able to stand another sanding, so scrubbing or the use of varnish remover are the only alternatives.

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## Briefs

### From recent literature

**Sterilization of dried foodstuffs** may be accomplished by using undiluted ethylene oxide. Materials are pre-heated to about 220° to 240° F. under vacuum, then subjected to the action of ethylene oxide at about 150° F. About one pound ethylene oxide to 35 cubic feet of space is required. Original characteristics of materials are retained.

**Corrosion inhibiting coatings** on ferrous metal surfaces can be provided by pretreatment in an aqueous solution employing a dispersing agent made from the reaction of 29 to 90 mols of ethylene oxide with 1 mol of lauryl alcohol.

**N-methyldiethanolamine** has been prepared, without serious contamination by higher homologues, by reacting gaseous ethylene oxide at a temperature of about 80° C. with an aqueous solution of methylamine. Yields of 83% based upon ethylene oxide have been reported.

**Surface active agents** of the glycol thioether type can be prepared with less by-product formation and improved yields by a two-step condensation of mercaptans containing from 6 to 24 carbon atoms with ethylene oxide. Initial condensation is carried out below 75° C. and further condensation in the range of 85° to 150° C.

Products made by this method are said to have greater uniformity of chemical constitution and physical state.

These developments are abstracted from recent publications or U. S. patents. The uses may suggest other applications of Jefferson Ethylene Oxide in your products or processes.

Outline of the scrubbing procedure:

1. Apply the scrubbing solution to the floor with a mop or pour the solution on the floor from the bucket and then level off with the mop.
2. Sprinkle scouring powder over the area.
3. Scrub vigorously by machine or hand. If no floor machine is available use a deck scrub brush.
4. After scrubbing pick up the dirty scrubbing solution.
5. Mop on a vinegar rinse and remove.
6. Apply one or two clear water rinses to the area and remove.
7. Scrub the adjoining areas until the whole floor is completed.
8. After the floor has dried 24 hours apply sealer.

Do not attempt to scrub a block-on-end floor. It is impossible to remove the imbedded wax and to apply a satisfactory seal on such a surface.

A deck scrub brush or a floor machine is used to agitate the scrubbing solution. Equip the floor machine with a steel wire brush and a No. 3 steel wool donut.

For picking up dirty water, nothing excels a vacuum cleaner in speed, ease and thoroughness. Where a vacuum is used, only one rinse is required. If a vacuum cleaner is unavailable, a squeegee and pick-up pan may be used to remove the dirty scrubbing solution. If a vacuum or a squeegee is not available, a mop can be used. A squeegee is much more desirable than a mop to remove liquids from a floor area. It is lighter to manipulate and leaves the floor drier.

A mop bucket with wringer and mop are used to apply the rinse solution. Use a clean mop to prevent spreading more dirt on the floor.

In cleaning a sealed floor prior to re-sealing, one of the usual floor scrubbing compounds is used at normal concentration. If rubber-burns are numerous, it is advantageous to use a cleaner specifically designed for removing them. Products of this type contain no soap or powdered detergent, but chemicals just for the purpose.

For heavy soil, the cleaning solution should be fortified by the addition of cleaning crystals. If the floor surface is not sealed, the use of sodium hypochlorite in the scrub bucket will lighten the floor considerably.

A vinegar rinse composed of one part of vinegar and seven parts of water should be applied after cleaning. The scrubbing solution is alkaline and soapy. Use the vinegar rinse as the first rinse after scrubbing to neutralize the alkali on the floor, and to cut the soapy film. Ordinary vinegar, as purchased from a grocery store, is a weak solution of acetic acid, which explains its ability to neutralize the alkaline scrubbing solution.

A great aid to scrubbing a dirty floor is scouring powder. A mild abrasive will remove marks and stains that the scrubbing solution will not remove. It might be necessary to scrub a dirty section for 10 minutes to get it clean without scouring powder, but when scouring powder is sprinkled on the spot, the dirt may be removed in perhaps a minute.

For years a safe seal remover has been a serious need in gym floor maintenance. There was one problem that could not be solved: The gym floor with "dark built-up surface film of seal or varnish and which had been sanded several times previously so that the tongue-and-groove joint would not permit another sanding. On such a floor scrubbing and sanding were not practical. The only logical solution was to use a varnish remover. But this was impossible because all varnish removers were highly volatile and inflammable. In recent years non-inflammable varnish removers have been developed which have completely solved this difficult problem. These new products contain no benzene, acetone, lye, etc., are rapid in action, remove all types of coating material, are effective against very thick coatings, and are quite safe to use.

A small rectangle of floor can be treated with seal remover. After a short while the old finish will wrinkle up and can be removed by finger pressure. At that point the seal can be removed with a floor machine which has been equipped with a steel wire brush.

Follow the machine closely with a floor brush to sweep up the little balls of softened seal before they stick to the floor. After using seal remover, scrub the floor, rinse, allow to dry, and then apply seal.

**C. Up-Keep of Gym Floors**

NO matter how good the finish is that has been applied to the floor, it will not give satisfactory service unless cleaned regularly. As a rule, the best maintenance is "once over lightly" with a treated dust mop. The work of sweeping a gym floor is greatly reduced by using a wide mop covering large areas quickly.

Mop dressings are oily materials, so it is essential that they be used correctly to avoid making the gym floor slippery. They should never be used in amounts larger than the manufacturer indicates on his label. After spraying the mop, it should always be allowed to stand 12-24 hours before using. This permits the mop dressing to be absorbed into the fibres instead of remaining on the surface where it rubs off on the floor. Daily sweeping of the gym floor to remove abrasive dust and dirt will do more to preserve the finish than almost any other factor.

**D. Manufacturer's Responsibility**

MAKING gym finishes is not a punch-press operation where each unit of production is exactly the same as the other. It must be realized that naturally occurring raw materials are used, and Mother Nature does not abide by strict uniformity. Also, seal is usually made by the open-flame process, which introduces variables. Further it is a batch process so that each day's production is made up of many individual batches. Floor seal manufacture is still a mixture of art and science. Therefore, the manufacturer is responsible to his customers for a rigid and strict production and quality control system. At the very least, a batch-number system should be used so that the manufacturer can quickly trace back any customer's order to a control sample on his shelves.

Most important, the manufacturer must test his gym seal before

(Turn to Page 135)

*Special Report*  
*on One of the World's Most Useful Insecticides*

# ORTHO Lindane\*

\*Approved name for the "pure Gamma isomer" of Benzene Hexachloride, a most versatile insecticide.

## *Effective Multi-Purpose Uses of ORTHO Lindane:*

**For household pests**—Kills insects three ways; by contact, vapor action and stomach poisoning. Effective control of flies, mosquitoes, lice, roaches, silverfish, bed bugs, ants, clothes moths, carpet beetles, spiders, etc. *ORTHO* Lindane in combination with DDT, Pentachlorophenol, other chlorophenols and petroleum oils gives effective termite control.

**For farming and ranching**—Controls flies and other insects in dairy barns—external animal parasites— mange mites, lice and ticks on sheep, cattle, hogs and horses—scab and sarcoptic mange.

**For crop pest control**—*ORTHO* Lindane is being widely used in control of many crop pests and with unprecedented success for the control of wireworms and other soil insects by seed treatment—also controls food and grain storage insect pests.

## *Check These *ORTHO* Lindane Advantages:*

**High Safety Factor**—Approved by the USDA for lice and mange control on dairy cattle. Shows no contamination in milk when properly applied. Kills poultry insects by contact and does not taint eggs or meat when properly applied. Even used by dermatologists for human itch, lice and scabies. Not cumulative and practically odorless. Any taken in by a warm-blooded animal is eliminated.

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# Carnauba Wax Output Expected To Increase

**H**IGH prices for carnauba wax will bring an increased output this year in Brazil, according to the views of several importers and floor wax manufacturers. The higher return which producers are receiving will send them further back into the jungles in Brazil, harvesting small isolated stands of palms, and cannot fail to bring larger stocks to shipping points next fall. But, some wax polish manufacturers point out, the tendency to cut down the content of carnauba in floor wax and replace it to a greater extent by resins and other waxes could well bring a reduced market and lower prices for carnauba six months hence and a subsequent shrinking in production in 1952.

Reviewing some of the figures of the carnauba crop estimate of 1950-51, R. A. Godfrey of the U. S. Consulate at Fortaleza recently reported his findings in Brazil to the Department of Commerce. He stated that the first cuttings of the 1950-51 crop last August and September were somewhat less than average. However, second cuttings completed in January, 1951, more than made up for this with a total crop yield of approximately 11,000 tons, divided by states as follows:

	Metric tons
Piaui	5,000
Ceara	4,600
Rio Grande do Norte	700
Bahia	500
Paraiba	200
Total	11,000

Prices offered to the producer, and more particularly the exporter, were favorable. A going quotation in January was Cr\$800 per arroba (15 kilos) for fatty grey wax. This is more than twice the price offered a year ago. An entirely new factor in the carnauba market is the almost complete absence of any carry-over stocks from previous crops. In past years there has been a minimum carry-over of 2,500

tons or more of wax. So large were the shipments in 1950 that only insignificant amounts of old wax were still available at the close of the year.

The volume exports of carnauba wax from Brazil undoubtedly set an all-time high in 1950. Incomplete and unofficial statistics indicate that total exports were probably in excess of 12,000 tons. Even the amount of 9,987 tons shown in Table I as having been exported in the first 9 months of 1950 was equal to the normal annual volume of exports. Unofficial statistics show exports in excess of 2,000 tons in the last three months of 1950 from the two major ports of Fortaleza (Ceara) and Parnaiba (Piaui). Total shipments from these two ports in 1950 amounted to 9,763 tons according to unofficial statistics. As usual, approximately 80 percent of the wax was exported to the United States.

The major factor which caused an increase of exports of carnauba wax

TABLE I Exports of Carnauba Wax from Brazil, Jan.-Sept. 1950*		
Country of destination	Metric tons	Metric Thousands of cruzeiros
Australia	115	3,681
Canada	145	4,756
Chile	32	1,156
United States	7,970	255,535
France	134	4,268
United Kingdom	933	30,429
Italy	4	145
Switzerland	317	10,468
Czechoslovakia	37	1,196
Belgium	89	3,028
Denmark	2	63
Holland	24	777
India	2	66
Mexico	5	153
New Zealand	13	468
Union of South Africa	33	1,102
Argentina	10	382
Colombia	2	85
Sweden	112	4,199
Japan	5	184
Indonesia	1	34
Portugal	1	35
Total	9,987	322,200

\* Prepared from monthly official Ministerio da Fazenda statistics submitted to the Consulate by the Statistics Office, American Embassy, Rio de Janeiro.

in 1950 was the inclusion of wax among the items which could be negotiated in barter deals. Though its inclusion was temporary, this was time enough for large quantities of wax to be earmarked for compensation, and consequently caused an increase in exports.

## First Hand Report

**A**NOTHER report by the representative of a large user just recently back from Brazil states that the present crop of carnauba wax should be more than sufficient for the requirements of those customarily using carnauba wax in their finished products. The figures following are from reliable Brazilian sources:

Wax on hand, Sept. 1st,	
1950	2,000,000
The new crop, 1950-51	24,000,000
	26,000,000
Shipments from 9/1/50 to 1/5/51	8,000,000
Balance on hand, January, 1951	18,000,000
Stocks and expected crops as of 1/5/50 (one year ago)	18,000,000

It is true that compensation deals disturbed the wax market during 1950. However, this type of transaction was instrumental in moving a larger tonnage than the Brazilians expected. Also, it made it possible for the foreign consumers to buy wax at lower prices. Compensation deals, however, established higher local prices for the Brazilian producers. The competition for wax between those holding barter deals was very keen and sent local prices to higher levels. To complete the barter deal and get the United States dollars, a substantial discount on the prevailing local Brazilian prices was allowed to the foreign buyers.

Now that the Banco de Brazil advises that there will be no more compensation arrangements allowed, the Brazilian producers should make the proper adjustments and return carnauba wax to a normal trading price.

It costs the Brazilian farmer from 150 to 250 cruzeiros to get 33  
(Turn to Page 127)

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# Floor Wax Practice Rules Proposed by FTC

PROPOSED trade practice rules for the floor wax and floor polish industry were issued by the Federal Trade Commission, Washington, D. C., April 17. These rules represent a revision of a similar set of rules issued June 22, 1949. A public hearing on the rules is being held in Room 332, Federal Trade Commission Building, Pennsylvania Ave. and Sixth St., N.W., Washington, May 11, beginning at 10:00 a.m. The trade practice rules issued last month have not been approved by the F.T.C., but final action on them will be taken by the Commission following consideration of oral and written views of interested parties.

In announcing the rules, the F.T.C. specifically excepts paints and lacquers, shellac and other varnishes as products of the industry.

The proposed trade practice rules for the floor wax and floor polish industry number 20 in all. They are prefaced by definitions of "wax" and industry products. Wax is defined as:

"Bees-wax and other materials which are essentially solid alkyl esters of aliphatic acids, or solid substances closely resembling bees-wax or carnauba wax physically in terms of hardness, cohesion, thermoplasticity, and insolubility in water."

Industry products as defined in the rules are:

"Those products (with the exception of paints and lacquers, shellac, and other varnishes) which are advertised, offered for sale, or sold for use in polishing, preserving, beautifying, cleaning or protecting floor surfaces and which, when applied to a floor, deposit thereon, after evaporation of the solvent or carrier, a solid film or coating which is substantially removable by usual floor-cleaning methods involving the use of soaps, alkalies, or synthetic detergents in aqueous solution."

Following the definitions, 20 trade practice rules are given. Of the 20 rules, the first eight, which deal mainly with the improper use of such terms as "wax," "slip-proof," "slip-resistant," "waterproof," "water resistant," "spot-proof," "heavy duty,"

etc., apply specifically to the wax industry. The remaining rules, which are part of all industry practice rules, describe as improper such practices as "loading industry products," misrepresentation as to character of business, imitation of trade marks and trade names, fictitious prices, false invoicing, defamation of competitors or false disparagement of their products, commercial bribery, substitution of products, use of lottery schemes, prohibited discrimination, guarantees, warranties, etc., and aiding or abetting use of unfair trade practices.

The rules pertaining to wax products follow:

**Rule 1 — Misrepresentation (General).** I. It is an unfair trade practice to sell, offer for sale, or distribute any industry product, or promote the sale or distribution thereof, by any method or under any circumstance or condition which has the capacity and tendency or effect of misleading or deceiving purchasers, prospective purchasers, or the public as to the quality of the product, the results to be obtained by its use, or regarding the durability, permanency, wearability, composition, ingredients, safety, ease or methods of application, origin or manufacture, of the product, or regarding the gloss produced by such product, or by any other method or under any circumstance or condition which has the capacity and tendency or effect of misleading or deceiving purchasers or prospective purchasers in any other material respect.

II. Under the provisions of paragraph (I) above, it is an unfair trade practice—

(a) to represent, directly or indirectly, by word, picture, symbol, or device, unless such be wholly true and nondeceptive, that an industry product—(1) is the only product which is capable of performing certain functions; or (2) is endorsed or used by certain parties, concerns, or the Government; or (3) meets the standards or specifications of any government or governmental agency; or (4) outwears other industry products; or (5) is a new, unique, or different floor treatment; or (6) produces a gloss which is brighter than other industry products; or

(b) to use, as descriptive of any industry product, the terms "permanent finish," "wearproof," or terms of similar import, when the floor surface

film resulting from application of the product will not endure indefinitely and without impairment under all conditions of normal use. (Note: It is the judgment of the industry that no industry product of present commercial manufacture is qualified to be designated as "permanent finish" or "wearproof."); or

(c) to state the percentage of wax in any industry product, such as "100 per cent carnauba wax," "15 per cent wax," etc., unless the statement is clearly qualified by a disclosure as to whether such percentage is calculated on a volume or weight basis.

**Rule 2—Misuse of the Term "Wax."** It is an unfair trade practice to use the term "wax" as descriptive of any industry product, or of any ingredient of an industry product or the film produced by such a product, under circumstances or conditions having the capacity and tendency or effect of misleading or deceiving purchasers or prospective purchasers.

Under this rule the term "wax" shall not be used to describe or designate—

(a) any wax ingredient of an industry product by a specific name, such as "carnauba wax," "sugar cane wax," etc., unless the wax used is of the origin indicated by such specific name; or

(b) any industry product which deposits on a floor surface to which it is applied, and after evaporation of the solvent or carrier, a film which contains less than 50 per cent wax, by weight, and which is not a plastic solid at room temperature, does not adhere to the surface to which it is applied, does not cohere sufficiently for cold molding, is not capable of having its gloss increased by buffing, and is not hydrophobic.

**Rule 3—Improper Use of the Terms "Slip Proof," "Non-Slip," "Non-Skid," etc.** In the sale, offering for sale, or distribution of any industry product, it is an unfair trade practice to use the terms "slip proof," "non-slip," "non-skid," or terms of like import, as descriptive of such product unless it will completely prevent slipping on any floor surface to which it is applied for the duration of the product thereon. (Note: It is the judgment of the industry that no industry product of present commercial manufacture is qualified to be designated as "slip-proof," "non-slip," or "non-skid.")

**Rule 4—Improper Use of the Terms "Slip Resistant," "Slip Retardant," "Anti-Slip," etc.** It is an unfair trade practice to use the terms "slip resistant," "slip retardant," "anti-slip," or terms of similar import, as descriptive of any industry product which does not contain slip resistant properties sufficient to assure that a floor surface to which the product is applied will be substantially safe for walking. Note: Subject to the development and acceptance of improved testing methods, either or both of the

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following tests with resultant coefficients of friction may be employed for the purpose of determining compliance with this rule:

(1) A coefficient of friction of not less than 0.40 as determined by averaging the results of four separate Sigler<sup>1</sup> tests of different areas of the surface. The Sigler test shall be made at room temperature ( $73\frac{1}{2}^{\circ} \pm 2^{\circ}$  F) with relative humidity of  $50\% \pm 4\%$ . Four tests shall be made using a leather test piece of hard, firm, sole leather conforming to Federal Specification KK-L-261c (Leather; Sole, Vegetable-tanned, factory), except that the compressibility of the leather shall be restricted to  $6\% \pm 2\%$ .

(2) A coefficient of friction of not less than 0.50 as determined by the test for slip resistance as used by the Underwriters' Laboratories, Inc., at the time of promulgation of these rules.

**Rule 5—Improper Use of the Terms "Waterproof," "Impervious to Water," etc.** In the sale, offering for sale, or distribution of any industry product, it is an unfair trade practice to use the words "waterproof," "impervious to water," or representations of similar import, as descriptive of such product unless, after application of the product, and after the solvent or carrier ingredient has evaporated, the resultant film will not, for the duration of the film, be penetrated, discolored, removed, or otherwise affected by water applied or coming in contact therewith under any circumstances likely to be encountered.

**Rule 6—Improper Use of the Terms "Water Resistant," "Water Repellent," "Will Withstand Damp Mopping," etc.** It is an unfair trade practice to use the terms "water resistant," "water repellent," "will withstand damp mopping," or representations of similar import, as descriptive of any industry product unless, after the application thereof, and after the solvent or carrier ingredient has evaporated, the resultant film will not, for a substantial period of time, be substantially dissolved, penetrated, discolored, removed, or otherwise materially affected, by water applied or coming in contact therewith.

**Test for Water Resistance or Water Repellency.** For purposes of this Rule 6, industry products capable of producing a floor surface film which will for a substantial period of time meet the following test are deemed to be qualified for use of the descriptive terms "water resistant," "water repellent," or "will withstand damp mopping":

Prepare suitable panels of all the floor materials for which the prod-

<sup>1</sup> Sigler Pendulum Impact Type Tester as described in National Bureau of Standards Research Paper RP1879, Volume 40, May 1948, of the Journal of Research of the National Bureau of Standards. The paper is entitled "Measurement of Slipperiness of Walkway Surfaces" and may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Blueprints of the Sigler testing device may be obtained from the Bureau of Standards upon request.

uct is intended. Thoroughly clean the panels with an aqueous soap solution, rinse well with plain warm water and dry for 24 hours under standard conditions of  $23^{\circ} \text{C} \pm 1.1^{\circ} \text{C}$  and  $50 \pm 4\%$  relative humidity. Apply the product to be tested to the panels according to the directions as shown on the container thereof and allow to dry for 24 hours at  $23^{\circ} \text{C} \pm 1.1^{\circ} \text{C}$  and  $50 \pm 4\%$  relative humidity. Place one milliliter of distilled water  $72^{\circ} \text{C}$  on the resultant film on each of the panels and allow to stand undisturbed for one hour under the above-mentioned standard conditions. Lightly wipe off the remaining water with a soft cotton cloth and buff the film lightly. The film should show no separation from the surface or discoloration.

**Rule 7—Improper Use of the Terms "Spot Proof," "Will Not Spot," etc.** It is an unfair trade practice to use the terms "spot proof," "will not spot," or terms of similar import, as descriptive of any industry product unless the film produced by such product will not, by the application of, or contact with, foodstuffs, water, alcohol, or any other matter, under any circumstances, be marked, discolored, or otherwise spotted, subject, however, to the following provisions of this rule:

If an industry product is spot proof with respect to most but not all matter, then the terms "spot proof," "will not spot," or terms of similar import, may be used as descriptive of said industry product, provided such terms are accompanied and qualified, in immediate conjunction therewith, by a clear, conspicuous, and nondeceptive statement disclosing the kinds of substances and matter that will spot the film produced by the product; and provided further, that in the use of any of said terms or representations, in pursuance of the foregoing provisions of this rule, the same are not used with such context or advertising or labeling make-up, or in such other circumstances, as to be deceptive or misleading.

**Rule 8—Improper Use of the Terms "Heavy Duty," "Traffic Wax," etc.** It is an unfair trade practice to use the terms "Heavy Duty," "Traffic Wax," or terms of similar import, as descriptive of any industry product in any manner which has the capacity and tendency or effect of misleading or deceiving purchasers or prospective purchasers. Under this rule the terms "Heavy Duty," "Traffic Wax," or terms of similar import, shall not be used as descriptive of any industry product which does not have the qualities which will provide serviceability and durability essential in meeting the requirements imposed by heavy traffic conditions existing in public buildings.

#### Lieberthal Joins Onyx

Paul J. Lieberthal, formerly with Richards Sales Corp., a subsidiary of Onyx Oil and Chemical Co., Jersey

City, has joined the sales staff of the industrial division of Onyx.

## Carnauba Wax

(From Page 123)

pounds of wax ready for delivery to the shipper. The difference in costs is brought about by the different labor rates in various areas. These conditions cause the price to vary from 25¢ to 41¢ a pound in its actual production. Also to be taken into consideration must be the land owner's profit of from 10¢ to 15¢ a pound, the shipper's 4¢ a pound profit, and, finally, an additional 10¢ to 12¢ a pound to cover taxes, selling and shipping expenses. These items bring the total cost up to between 49¢ and 72¢ per pound, f.o.b. steamer Brazil. Steamship freight and insurance to the port of New York cost an additional 4¢ a pound.

Carnauba wax prices could be more uniform if better care were exercised by the Brazilian shippers and foreign importers. Brazilian shippers claim the increased price situation was brought about by the American importers in their anxiety to get wax at any cost. This statement is their defense for their own mistakes of poorly planned bidding for wax from the producers. The following instance to which I was an eyewitness eloquently illustrates the type of objectionable bidding in practice. Two shippers, bidding against each other for ten tons of wax, started bidding on the basis of 670 cruzeiros for 33 pounds of wax and stepping it up to 700, then to 710, finally closed the bidding at 730 cruzeiros. This situation caused wax to go up 10¢ a pound within half a day. The shippers attitude was one of indifference. They were not concerned as long as an American importer would pay the price.

At the time of my visit many producers actually expected to receive \$1.65 a pound for fatty grade. To this price exporter's profit and other expenses would have to be added. It is good to report that due to the withdrawal of the American buyers the Brazilian producers have since changed their minds about the higher price.

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## Wax Aerosols

(From Page 109)

ration is merely decreased. It is theoretically interesting, however, to note that at least two effective functional groups are required. Such substances as water, ethyl acetate, butyl lactate, propyl oleate, carbitol, cellosolve, butylamine, dibutylamine, diphenylamine, pyridine, aniline, ethanol, methanol, hexabromobenzene and tetrabromoethane were without effect or were slightly harmful to the stability of the wax aerosol. It may be that the effective functional groups attach the additive to the wax particle through chelate action and thus change its density.

In any case the effect in question is quite different from that of "surface-active" agents. Substances, which are surface-active in aqueous systems, such as "Aerosol OT", "Arquad 2C", "Arquad 2HT", "Tween 81", "Octylamine", "Span 20", "Span 80" and "Span 85" were harmful to the stability of wax aerosols. Agents, which are surface-active in non-aqueous oil systems, such as "Emulsifier STH" (long chain sulfamidoacetic acid), "Emulsifier STU" (an alkyl sulfamidomethane sulfonate), barium pentadecylphenolate, eicosylsulfonamide, an oil-soluble polymeric dispersing agent (co-polymerized methacrylate esters) and an oil-soluble polymeric detergent (co-polymerized methacrylate ester and amide), were extremely harmful, causing rapid separation of the wax. Tube 6, Figure 3, illustrates this, showing the separation of a wax aerosol with 75% "Freon" propellant and "Emulsifier STH" additive, after standing only one hour.

### Thermal Lump Formation

**A**NOTHER wax aerosol problem is lump formation. When the can is tested by heating it to 130° F. (to meet ICC regulations), some of the wax dissolves and will precipitate again on cooling. If the cooling is slow, as is the case where the can stands at room temperature until it cools, lumps or agglomerates may form and clog the spraying mech-

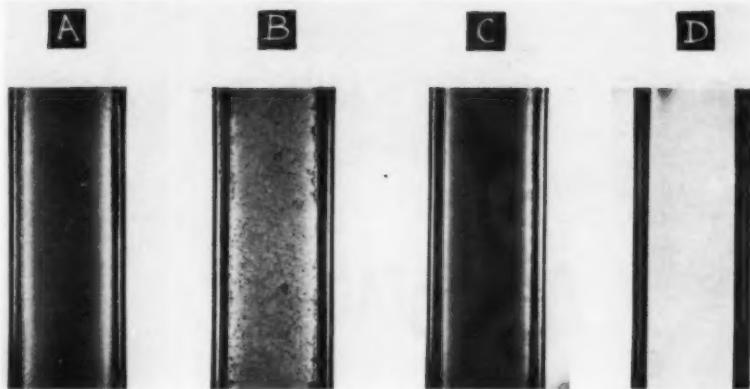


FIGURE 4. Control of Thermal Lump Formation in Wax Aerosols. Tube A, cooled rapidly from 130°F.; Tube B, cooled slowly from 130°F.; Tube C, 75% "Freon-113," cooled slowly from 130°F.; Tube D, 75% "Freon-21."

anism. However, if the cooling to room temperature is rapid, the dissolved wax precipitates as fine particles. A soft jelly is formed, which is readily redispersed on shaking to give a suspension free of lumps. Tube A, Figure 4, shows an aerosol free of lumps, which was heated to 130°F., cooled rapidly and shaken; Tube B, Figure 4, shows a lumpy aerosol which was heated to 130°F., cooled slowly and shaken. Both aerosols contain 25% commercial wax concentrate D and 75% "Freon".

This procedure may provide a means for testing at 130°F. without deterioration in quality. However, it is only a "temporary cure", since, if the cans become hot enough subsequently in storage and cool slowly, lumps will form. The extent of lump formation will depend on how much wax dissolves on heating, and the solubility of the wax is apt to increase rapidly with increasing temperature. As a result, heating to only 110°F. or 120°F. in use or storage may not lead to the objectionable lumps formed by heating to 130°F.

Nevertheless, the permanent prevention of lump formation would be desirable and can be accomplished when either of the following conditions is met:

1. The wax is insoluble in the propellant-vehicle mixture.
2. The wax is completely soluble in the mixture. In either case no wax will precipitate as a result of heating and cooling.

Complete insolubility cannot

be attained, but the effect of lower solubility may be beneficial. For example, it has been found that the thermal agglomerates formed by mixtures of "Freon-113" or "Freon-114" with wax concentrates are much smaller than those formed with "Freon-11" or "Freon-21". Tube C, Figure 4, containing 75% "Freon-113" illustrates this and is to be contrasted with Tube B, where the formulation contains "Freon-11". The greatest objection to the lumps is that they may clog the valve. Agglomerates small enough to spray can presumably be tolerated. Accordingly, "Freon-113" and "Freon-114" may be desirable components of wax aerosols, and more particularly if hard, low solubility wax is used. On the other hand, "Freon-11" and "Freon-21" have the property of dissolving carnauba wax only slightly at room temperature (<0.05% solubility), while dissolving it appreciably at 130°F. The most attractive propellant from the point of view of low dissolving power would be a mixture of "Freon-114" and "Freon-12", the proportion of "Freon-12" being determined by the pressure desired.

The low solubility of carnauba wax in the usual aerosol components at room temperature would seem to rule out soluble waxes high in carnauba. However, soluble wax formulations may be practicable, if the carnauba content is low enough. In general, waxes of low molecular weight will have desirable solubility characteristics for this purpose. An

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example of a commercial wax of comparatively high solubility is shown in Figure 4, Tube D. This tube contains 75% "Freon-21" and 25% of wax concentrate D (1% wax solids in the mixture). The solution is almost completely clear at 75° to 80°F. However, at lower temperatures some precipitation will occur. "Freon-21" is a better solvent than "Freon-11" in wax systems, and also has a higher vapor pressure, so that less of the poorer solvent "Freon-12" or "Freon-22" would be required to give a sufficiently high pressure with "Freon-21" than with "Freon-11". A particularly desirable propellant from the standpoint of high dissolving power would be a mixture of "Freon-21" and "Freon-22".

When a formulation of "high" solvent power is used, it will obviously be necessary to make sure that it will not have an undesired solvent action on a finish to which it is applied. Usually "Freon-21" will be satisfactory where "Freon-11" is satisfactory, that is, in practically all cases, but there may be exceptions. Furthermore, data on the individual "Freon" compounds might be misleading—it is the effect of the *complete* formulation that counts, and its effect should always be tested.

#### Corrosion Tests

SINCE the wax aerosols are non-aqueous and non-alcoholic systems, there was little reason to expect corrosion difficulties. However propellents not ordinarily used in wax aerosols have been proposed above for their special desirable properties, and their effect on metals when mixed with wax concentrates has been tested. "Freon-11" and "Freon-12" are known to be satisfactorily non-corrosive wax aerosol components. "Freon-21" and "Freon-113" were compared with "Freon-12" in sealed tube tests at 130°F. In one series, steel test strips were used and in another brass strips. In each case there was 75% "Freon" and 25% commercial wax concentrate. The results for each of two wax concentrates showed "Freon-21" and "Freon-113" to be at least as non-corrosive as "Freon-12" in these

systems. In view of the extremely great stability of "Freon-114", tests on it appeared unnecessary.

#### Conclusion

**I**N summary, methods for preventing the separation of wax from aerosol mixtures have been developed, methods for minimizing or avoiding thermal lump formation have been developed, and "Freon" propellents have been shown to be non-corrosive in this type of wax aerosol system.

The separation of the wax can be prevented by adding a finely divided inorganic solid in appropriate amount or by adding certain poly-functional organic substances. Thermal lump formation can be prevented by rapid cooling or by choosing the composition of the wax aerosol system in such a way that little or no wax is precipitated when the aerosol is heated and cooled. Corrosion tests have shown other "Freon" compounds to be as non-corrosive as "Freon-12" in wax aerosols.

## Car Cleaners

(From Page 34)

cleaning and antifogging effect on glass surfaces are popular with both motorists and service station attendants. A convenient product of this sort is generally to be found near at hand in the car to clean the windshield before or after a drive. Of course there are various ways of making these treated fabrics (31), but the one that has attracted the most attention recently is the process developed at the duPont laboratories (36). The formula and method, which are unpatented and available for use without restriction, were given as follows:

Fatty alcohol sulfate (Duponol ME, dry) .....	700 Gm.
Tannic acid .....	90 Gm.
Glycerine .....	160 Gm.
Pontamine Sky Blue 6BX (150%) .....	9 Gm.
Water, to make .....	8,000 cc.

Dissolve the blue dye in 500 cc. of hot water. The tannic acid, to which 10 cc. of alcohol (2B) has been added, is dissolved in 500 cc. of water. The detergent (Duponol) is next dissolved in several liters of water and the glycerine added, followed by the

tannic acid and dye solutions. Water is then added to bring the solution to the required volume. Suitable fabric, such as diaper cloth, is padded in the solution at room temperature, no pressure being needed. The cloth is then dried on large steam cans, after which it is ready for cutting and packaging.

As shown by months of testing, the product is very efficient. Each application produces results that last for several hours and the antifogging effect is obtained by merely wiping the glass with the treated cloth. Products based on this formula are on the market. Of course other dyes and surface active agents may be used but compatibility must be considered and adjustments made.

Since plastics are finding increased use on cars as, for example, wind deflectors and sun shields, they too require cleaning. Because the surfaces of these clear plastics are relatively soft, abrasive cleaners should be avoided. Solvents, which may also have deleterious effect, should also be avoided. Cleaning is best done with lukewarm water and soap, or perhaps a solution of synthetic detergent will serve. After wiping dry, the plastic can be given polish and sparkle, as well as a degree of protection, by applying paste wax.

With the exception of those with white sidewalls, tires seldom require special cleaning aids. The use of a brush to loosen dirt and mud, followed by swabbing or flushing with water usually suffices. If, however, more drastic cleaning is indicated, soap or detergent may be called into use. Oils, gasoline or other solvents should be avoided. Indeed, if present, such materials should be removed from tires and rubber parts as soon as possible since they have a deteriorating effect. In the case of parts in which rubber is bonded to metal, it has been suggested (37) that a mixture of equal parts of glycerine and alcohol may be used.

#### White Sidewall Tire Cleaners

**B**Y their very nature it is obvious that white sidewall tires rate special consideration. Hence, a number of products have been developed to remove grime, curb scuff marks, rust

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and grease stains and to restore the whiteness. Some of these compounds are based on soaps and others on alkalies. An example of the latter type of product, as given by Glickman(4), consists of a mixture of:

Trisodium phosphate ..... 80 per cent  
Sodium metasilicate ..... 5 " "  
Sodium hydroxide ..... 15 " "

To use this mixture, dissolve about four ounces in a pail of water and apply with a brush. It should then be thoroughly rinsed off with running water.

Government experts(38) have advised that tires having white sidewalls should ordinarily be kept painted because white rubber usually deteriorates more rapidly in sunlight and weather than black rubber. Designed to be quick-drying and to withstand flexing without cracking, the white paints may be made from a variety of materials, including titanium base pigments in quick drying spar varnish or in resin emulsion.

Quite different and apparently providing a rather temporary coating is the following tire "paint" cited by Bennett(29):

Precipitated chalk .....	40 lb.
Spanish white .....	20 lb.
Gilder's whiting .....	15 lb.
Gum tragacanth .....	10 lb.
Phenol .....	10 oz.
Clove oil .....	10 oz.

Allow the gum to soak over night in seven gallons of water and then add the phenol and pigments while stirring. If the product is too thick, add more water and finally incorporate the clove oil, with stirring.

If the white sidewalls should become too unsightly, it has been suggested(13) that they can be made completely black by painting with a ten per cent solution of Typophor Black in toluene.

When it is desired to "dress up" a tire and perhaps afford some added protection, as in the case of an exposed spare, suitable black paints may be used. These may consist of asphalt varnish or asphalt emulsions, or they may be made from carbon black in quick drying spar varnish(38).

#### Upholstery Cleaners

OF COURSE, the interior of the car also comes in for its share of attention. As a rule, all that is required

is a thorough brushing or vacuum treatment to provide an appearance of neatness. However, automobile upholstery, much more than furniture upholstery, shows a tendency to become grimy and stained. Therefore, upholstery cleaners and stain removers must be called into use. Ordinarily standard type products(39) will suffice, but occasionally a more specialized preparation is needed.

Since oil and grease are prominent among the materials producing stains upon auto upholstery fabrics, solvent type removers are in demand. Carbon tetrachloride or combinations of this material with other solvents are often used to remove such stains. Glickman(4) recommends the use of mixtures of carbon tetrachloride and naphtha and Bennett(13) cites an upholstery cleaner formula consisting of equal parts of these solvents.

Among the aqueous types of upholstery cleaners, the simplest are those consisting of a synthetic detergent dissolved in water. Anionics of the alkyl aryl sulfonate type are appropriate and materials like "Nacconol NR" (made by National Aniline Division, Allied Chemical & Dye Corp., New York) or "Santomerse No. 1" (produced by Monsanto Chemical Co., St. Louis) may be used. With either of these materials, the recommended proportions are one tablespoonful of detergent to one quart of water. Surface dirt may be cleaned from upholstery by rubbing with a sponge or cloth squeezed out of such a solution, followed by wiping with a damp cloth. To remove spots, it is advisable to rub from the outside to the center so that no ring will be left on the fabric when drying takes place.

Mixed types of cleaners, combining the action of both solvents and detergents, give a more rounded effect against a greater variety of stains. One of the simplest of such preparations, described(40) as being particularly suitable for cleaning automobile upholstery soiled by tar, oil, grease or other stubborn dirt, is made from:

Naphtha .....	27.0 per cent
Soap .....	0.8 " "
Water .....	72.2 " "

Solvents or solvent-containing

cleaners are best avoided when cleaning auto upholstery or auto seat covers made of simulated leather or plastic. Indeed, many manufacturers of these products stress that the materials can be washed clean with a damp cloth. When an especially good job is indicated, washing with warm water and a mild soap should do the job. Leather or leatherette upholstery may be washed carefully with saddle soap. If desired, a good wax may be used after cleaning to preserve the luster of the leather.

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#### Arnold Laboratories Move

Arnold Laboratories moved recently to 1515 West Glen Oaks Blvd., Glendale 1, Calif., from 7765 Santa Monica Blvd., Los Angeles.

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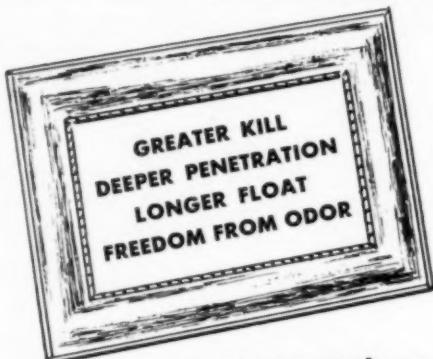
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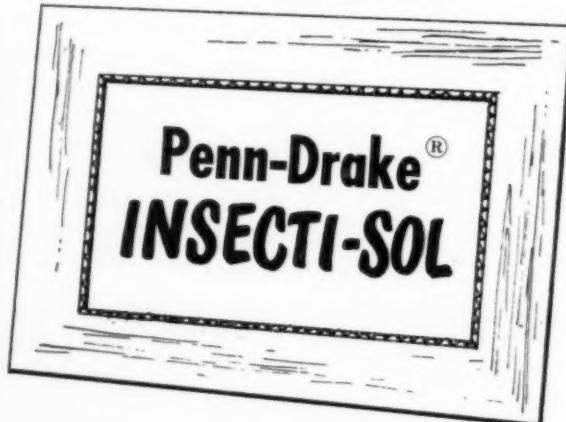
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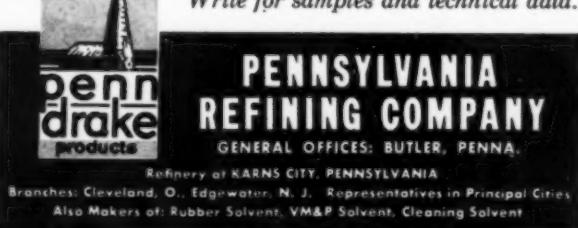


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*Write for samples and technical data.*



## Gym Sealers

(From Page 121)

shipment to see that it meets specifications. Specifications vary among manufacturers. I will outline some of our specifications for purposes of illustration. We check non-volatile solids, clarity, color and viscosity. We test for color stability and skinning by placing the seal in a half-filled container for many hours. A dilution test is performed by adding large amounts of thinner to the seal to see if it remains clear. Drying time is important and is tested for "tack-free" and "hard film" conditions. A "pencil hardness" test is used to give some indication of traffic resistance.

In order to determine how well the finish will stand chemical abuses that might be associated with scrubbing compounds, mop dressings, ice-cream socials, dances, etc., we test by complete immersion for specified lengths of time against 5% caustic soda, 190 proof alcohol, 20% neutral soap, paraffin oil, gasoline, boiling water, and water at room temperature.

A test we rely upon heavily and which is dictated by the peculiar use of gym floors, is a rubber-burn resistance test. A gym finish must resist rubber burning or it will prove unsatisfactory. A panel is prepared containing two seals, a standard seal and the one presently being tested. Using heavy pressure, a commercial rubber heel is rubbed across the two seals at a given rate and for a specified number of times. The surface is then wiped with a soft cloth moistened with mineral spirits. The finish must be intact to pass the test. No rubber marks should remain.

The tests described above are used to evaluate all production batches. Much more extensive tests than these are required when infrequent formula changes are under consideration. Whenever basic formula changes are involved it is always necessary to apply the new formula to a few gym floors and see how it performs in actual use. If satisfactory, the new formulation is released to customers on a limited but gradually increasing scale.

To conclude, it is the manufacturer's responsibility to the customer to see to it that every gallon of gym floor coating he ships out comes from a batch which has been thoroughly tested and passed by the laboratory.

## Legislation

(From Page 115)

national product. Provided if re-registration is not obtained within one calendar month after the expiration, a penalty of 10% is added to the fee, and an additional penalty of 5% of the original amount due, for each succeeding calendar month, but the penalty shall not exceed 50% of the original amount due, provided there is no penalty if registrant makes an affidavit that no business was done during the period of non-registration.

### West Virginia\*

Bill pending before the present Legislature, which provides for annual registration.

### Wyoming\*. Economic Poisons Law

Registration annually. Year July 1 — June 30. Fee \$2.00 for each product registered, provided "that a maximum registration fee of not more than \$25.00 be charged any one firm.

### Canada\*. Pest Control Products Act

Registration annually. Year January 1 — December 31. Fee \$20.00 for each brand, and \$5.00 for each renewal registration.

In addition to this legislation, the industry is also subject to laws administered by the Federal Trade Commission; regulations of the Interstate Commerce Commission, and various city ordinances. Further legislation is now pending in several of the State Legislatures, and a Bill has recently been introduced in the U. S. Congress (H.R. 3257) to amend the Federal Food, Drug and Cosmetic Act, providing that "No person shall introduce or deliver for introduction into interstate commerce any chemical additive as defined in Sec. 20(q) unless an application filed by such person pursuant to subsection (b) is effective with respect to such chemical additive."

The necessity for regulatory

control of the sale and use of insecticides, fungicides and other so-called "economic poisons" is recognized by all, but with the present multiplicity of laws and regulations to which the industry is subjected, it imposes a material hardship and expense on the manufacturers of these products and added cost to the users.

## Detergent Bars

(Turn to Page 82)

resistance. The compounded bar stock can be processed in conventional soap plodders and presses to yield a hard smooth well-formed bar which foams and deterges effectively in the hardest waters encountered in domestic use, without leaving unsightly deposits on the bathroom fixtures. On the skin, the composition is free rinsing and it leaves no residual "tack". The bar dries out with satisfactory rapidity and compares with soap bars in durability and number of washings. It enjoys the further advantages of being non-alkaline, thus furnishing an alternative to soap for users with sensitive skins.

## ACS Insecticide Papers

A symposium on methods of analysis for micro quantities of pesticides was one of the features of the Division of Agricultural and Food Chemistry of the 119th National Meeting of the American Chemical Society, held in Boston, Apr. 1-5. Among the papers presented at morning and afternoon sessions of the symposium were: "The Colorimetric Determination of Small Quantities of Benzene Hexachloride" by John D. Fairing and Wendell F. Phillips; "The Determination of Benzene Hexachloride by a Colorimetric Method" by Milton S. Schechter and Irwin Hornstein; "A Spectrophotometric Method for the Determination of Small Quantities of Chlordan" by Thomas H. Harris; "Detection and Determination of Heptachlor" by Percy B. Polen and Paul Silverman; "Determination of Micro Amounts of Aldrin and Dieldrin by Infrared Spectroscopy" by Y. A. Tajima, M. D. Garhart and F. J. Witmer; and "Determination of Pyrethrum Residues" by A. A. Schreiber and D. B. McClellan.

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**U.S.I. Allelithrin Plant**

Plans for the construction of a plant for the production of allelithrin in Baltimore were announced recently by W. P. Marsh, Jr., president of U. S. Industrial Chemicals, Inc., New York. The plant will be the first devoted to the commercial production of allelithrin. Construction has been started and the plant is expected to be completed late in 1952.

**Luthi Joins Hyman**

Frederic J. Luthi recently joined the staff of Julius Hyman & Co., Denver. Formerly with the Geigy Co. in Basle, Switzerland and Barcelona, Spain, he is to do technical development and sales promotion work, with emphasis on European and African markets.

**Warfarin Regulations**

The Post Office Department, Washington, D. C., recently notified the office of John D. Conner, Washington counsel for C. S. M. A., that warfarin can now be shipped in cartons containing twelve one-pound containers of the mixed bait. The present regulation is ten pounds on the mixed bait. The limitation of eight ounces on the concentrate remains in effect.

**Jane Powell to Marry**

The engagement of Miss Jane Hilsen Powell, daughter of Mrs. Ruth Powell and John Powell of New York to Alan Parmelee Danforth of East Orange, N. J., was announced recently. Miss Powell's father is publisher of *Modern Sanitation* and *Paint & Varnish Production* magazines and former head of John Powell & Co., New York insecticide firm. The couple plans to be married in July.

**Hoffman in Trio Post**

The appointment of Robert Hoffman as regional sales manager of Trio Chemical Works, Brooklyn, was announced early in April by Milton M.

Blank, president. In his new capacity, Mr. Hoffman, a former consultant to the floor covering trade in the metro-



ROBERT HOFFMAN

politan New York area, is covering Maryland, Washington, D. C. and Virginia.

**Rohm & Haas to Expand**

An expenditure of between \$10 and \$12 million will be made on expansion of production and raw material facilities in 1951, it was announced recently by Rohm & Haas Co., Philadelphia. Part of the expenditure, which is double that of 1950, will be spent on an addition to the firm's research building.

**III. PCO's to Advertise**

The Illinois Pest Control Association expects to start its long discussed institutional advertising program in June, Earl C. Salmon of Frederick Peres Co., president of the organization, announced recently. Real estate publications, magazines in the tavern and other fields, and newspapers, to some extent, will be used, he stated. At the Illinois Association's March meeting cooperation was pledged at the local civilian defense agency in the event of an atomic bomb attack on Chicago. Rat extermination or other necessary pest control work, following a bomb explosion, will then be under the direction of As-

sociation members, of whom twelve were named as captains to direct the work in various sections of Chicago.

**Completes DDT Plant**

Completion of its new DDT plant in Houston, Tex., was announced recently by Kolker Chemical Works, Inc., Newark, N. J. The completion of the DDT unit, said to be the first in the southwest, marks the second step in the company's current expansion program, which is now in progress at their 48-acre Houston site. Kolker also produces BHC in Houston.

**Clorox Builds New Plant**

Construction of a new bottling and storage plant in North Kansas City has already begun, it was announced early in April by Clorox Chemical Co. of Oakland, Calif. The company first disclosed its plans for building the \$400,000 structure last September. It expects the plant to be completed and in operation this summer. The building will have about 30,000 square feet of floor space and approximately 30 employees.

**Discover 1080 Cups in N. Y.**

Recent discovery by police and public health officials of eight cups coated with Compound 1080 rodenticide in the eastern section of the Bronx, N. Y., resulted in the service of a summons on Stanley Fox, vice-president of Commonwealth & Sanitation Co., New York. He was charged with violating the Sanitary Code. The cups were found following the deaths of two dogs, a cat and several birds in the vicinity of Fort Schuyler, located in the Throggs Neck section of the Bronx. Although sanitary regulations prohibit the use of 1080 (sodium fluoracetate) without a permit and outside of buildings, 1,200 cups of rodenticide were placed in the 20 buildings of the New York Maritime school at the fort by the company. While exterminators were burning empty ones in the open, several blew into Long Island Sound and subsequently were washed ashore. These were the eight later found. If convicted of misuse of the compound a person is liable for a \$500 fine, a year in prison or both.

### Potrykus & Olsen Appointed

Harry Potrykus and T. A. Olsen were named recently as division managers for Boyle-Midway, Inc., New York. Mr. Potrykus is covering the Wisconsin area and Mr. Olsen represents Boyle-Midway in the Pacific northwest.

### Aldrin for Iran Locusts

Aldrin insecticide, made by Julius Hyman & Co., Denver, has been flown to Iran to control grasshoppers reaching plague proportion numbers, it was announced April 10 by the U. S. Department of Agriculture. The U. S. D. A. assistance was extended through the Point Four program of technical cooperation administered by the State Department.

In addition to the 13 tons of aldrin insecticide flown from Denver to Iran, airplanes with spraying apparatus, and a leading grasshopper control expert of the Bureau of Entomology and Plant Quarantine, have been flown to Iran. Several small airplanes of a type used in the U. S. for spraying field crops were flown with the insecticide in larger cargo planes to Iran. The locust outbreak is said to be the worst in 80 years. William B. Mabee, operations supervisor, Division of Grasshopper Control, BEPQ, Elko, Nev., is technical adviser of the mission.

### Johnson Display Awards

S. C. Johnson & Son, Racine, Wis., is currently offering \$10,000 in cash awards and merchandise to dealers for the best display of Johnson products in their stores. Top prize is \$1,000, with three others of \$500, twenty-five of \$100 and 100 electric polishers.

### R. L. Tracy Joins Powell

Dr. Ralph L. Tracy, formerly head of the research staff of the California Institute of Technology, was recently appointed to manage pilot plant operations for John Powell & Co., New York. He is conducting his work at the Port Jefferson (Long Island, N. Y.) research and development laboratory opened recently by the Powell

company. Prior to joining Powell, Dr. Tracy was vice-president and technical director of Organic Chemicals



DR. RALPH L. TRACY

Corp., Maryland, and subsequently chemical engineer in charge of the benzene hexachloride plant of Miller Chemical Corp., West Virginia.

### Hyman Names Miller

Roy J. Miller recently was appointed vice-president in charge of manufacturing operations of Julius Hyman & Co., Denver. He was formerly works manager. Thomas McKenna has been appointed to succeed Mr. Miller.

### New Mothproofing Product

Thrifty Products Co., Brooklyn, N. Y., has announced a new product known as *Cedar-lux*, which it claims will permanently moth- and fireproof closets, chests and drawers treated with it. The product is manufactured by Cedar-Lux Products Co., Kansas City, Mo., and will be distributed by the Brooklyn firm.

### Stolk American Can Head

The election of C. H. Black, president, as chairman of the board and the naming of W. C. Stolk, executive vice-president, to succeed him were announced recently by American Can Co., New York. Mr. Black, who has been president since 1949, succeeds D. W. Figgis as chairman. Mr. Figgis, who retires after nearly 50 years service with the firm, will continue in an advisory capacity.

### More Koppers Coke Ovens

A new battery of 29 coke ovens is to be built at the Midland, Pa., plant of Crucible Steel Company of America by Koppers Co., Pittsburgh, it was announced recently. The new ovens will carbonize 490 tons of coal per day. Included in the contract are changes and additions to the chemical recovery equipment at the Midland coke plant, where four batteries of 184 Koppers ovens are presently operated.

### Sign F.T.C. Stipulation

Rox Ex Co., Flint, Mich., and its president, Edward Van Winkle entered into a stipulation with the Federal Trade Commission recently to stop representing that the insecticide "Stay Spray" or "Plastic Roxide" will kill all insects or all crawling insects that infest the interiors of buildings. They also agree to refrain from advertising that after the use of the preparation insects will not reinfest the areas treated unless this claim is limited to a period of about six weeks after treatment and to insects to which the residue of the spray remains toxic for that length of time.

Other representations to be discontinued under the terms of the stipulation are that the preparation will kill many insects that are not killed by DDT; that it is safe to use around food, children and pets and is not poisonous to warm-blooded animals and human beings; that it will kill many insects not killed by other methods, unless such representation specifies the conditions of use and the types of insects which will be killed by "Stay Spray" or "Plastic Roxide", but will not be killed or exterminated by other methods; or that one quart of the preparation is enough to spray the average house.

According to the stipulation of facts, Rox Ex Co. and Mr. Van Winkle, who trades as Stay Chemical Co., misrepresented that the Federal Trade Commission or other Government agencies found the claims made for the insecticide to be true and approved the product. They agreed to discontinue such representations.

## USDA Experts Refute DDT Poison Claims of Physician

IMPORTANT testimony relative to the toxicity of DDT to humans was presented before the Delaney Committee in Washington, April 17th as the Committee resumed its hearings investigating the use of chemicals in food products. The testimony, offered by Drs. Paul A. Neal and Wayland J. Hayes, Jr., of the U. S. Department of Agriculture, contradicted in many details testimony presented to the committee last November by Dr. Morris S. Biskind, New York physician, who charged that the widespread use of DDT insecticides has been responsible for many cases of DDT poisoning. Dr. Biskind attributed responsibility to DDT for many cases of heart disease, anemia, liver ailments, skin sensitization, etc.

Drs. Neal and Hayes, however, in commenting on the cases reported by Biskind, said "it is justifiable to question whether any of the cases reported by him are clearly and unequivocally attributable to DDT toxicity per se. . . . There are at present no authentic cases of chronic DDT poisoning of human beings in the literature where careful scientific data accompany the report." They suggest that the cases of supposed DDT poisoning reported by Dr. Biskind "are quite consistent with certain types of psychoneurosis, particularly hysteria."

Drs. Neal and Hayes emphasized that "DDT is a toxic substance and can cause injury if not handled properly. Undisputed cases of acute illness have been reported. It is also true that there are accurate reports of the presence of DDT in the body fat and milk of human beings. There is, however," they repeat, "no authentic report of liver injury or other chronic poisoning in man resulting from DDT."

Reviewing the history of test work on the toxicity of DDT, they noted that before DDT was released by the government for general public use, a number of experiments were made on volunteer human subjects at the National Institute of Health. Two subjects were exposed in a small sealed

chamber to DDT dispersed as an aerosol. In spite of the fact that their torsos were heavily covered with DDT at the conclusion of the various experiments, and the exposures were ten times as severe as would result from household use of a single aerosol bomb, "there were no subjective or objective symptoms referable to DDT."

In a further test, single doses as large as 770 mg. of DDT in olive oil were taken by one of the test subjects without causing any ill effects. In studies reported by Stammers and Whitfield [*Nature* (Lond.) 157, 658, 1946] 15 men who had been engaged continually for 7 to 9 months in spraying enclosed areas with a 5 per cent solution of DDT in kerosene were examined. No ill effects were noted. Similar negative findings were reported by Gordon (*Brit. J. Indust. Med.*, 3, 245, 1947) after examining 27 African workers who had been engaged in spraying DDT for a period of six months.

Drs. Neal and Hayes reported further that since 1945, when DDT was first released for general civilian use, all suspected cases of DDT poisoning brought to the attention of certain government agencies or reported in the press were referred to the National Institute of Health for study, 40 cases in all of suspected DDT poisoning being investigated before this activity was terminated in November, 1947. "Not a single case of DDT poisoning was found among these patients . . . some of the patients reportedly suffering from DDT poisoning were

found to have had no known contact with DDT. In some cases there was skin and mucous membrane irritation due to the solvents used for the DDT, but in other patients the condition incorrectly ascribed to DDT was shown to be a well-known organic disease, such as bleeding peptic ulcer, coronary thrombosis, etc. To the best of our knowledge, there have been no substantiated cases of DDT poisoning in this country resulting from the ingestion of foods containing DDT as a residue."

Drs. Neal and Hayes reported a number of authenticated cases from the medical literature on the acute toxicity of DDT. There have been, they report, approximately 200 cases of acute DDT poisoning after its accidental ingestion, commonly where DDT in powdered form was mistaken for flour, and tremendous dosages taken as compared with the small quantities which might result from ingestion of residues on foods. Studies of these cases indicated that a relatively large amount of DDT is necessary to produce acute human illness. In cases where the DDT was dissolved in organic solvents, investigation demonstrated that it was probable that the factor responsible for the toxicity was the solvent.

Referring specifically to their comments on Dr. Biskind's prior testimony, and to the possible scientific or clinical basis for this testimony, they emphasized that the clinical manifestations used by Dr. Biskind as an indication of DDT poisoning were based on only a single British report, which was not confirmed by more careful and more thorough experimentation. They point out that in both animal experimentation and controlled studies by other scientists on human volunteers, doses of DDT thousands of times those presumably encountered by Dr. Biskind's patients produced none of the symptoms reported by him. Dr. Biskind's testimony, they observe, "gives the impression that he accepted his patients' statements about their exposure to DDT and if no mention were made of it he specifically questioned them about it."

They added further that many of Dr. Biskind's patients had been seen prior to his examination of them by other physicians who made no such diagnosis of DDT poisoning as did Dr. Biskind. According to Dr. Biskind, approximately one-third of his patients showed symptoms of DDT poisoning. "If that large a percentage of his patients were afflicted with DDT poisoning," Drs. Neal and Hayes observed, "one might assume that similar cases would show up in the medical practice of other physicians and be recognized by them as such."

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## NSSA Cleveland Meeting June 3-6

WHAT is expected to be the largest, from the standpoint of number of manufacturers exhibiting their products, and best attended convention in the history of the National Sanitary Supply Association will be held in Cleveland, O., at the Municipal Auditorium, Sunday through Wednesday, June 3-6. The number of firms exhibiting, now totals approximately 140, according to Leo J. Kelly, executive vice-president of the NSSA.

The first major national convention and merchandise exhibit of the association to be held in a city other than Chicago, the 1951 affair is being singled out for particular recognition by the city of Cleveland, whose mayor, Thomas A. Burke has proclaimed the week of June 3, as "Sanitation Week in Cleveland." A proclamation to this effect has been issued by the mayor, and special programs, which will be broadcast by radio, seen on television and publicized in newspapers, are being planned. In connection with the designation of the week the NSSA is meeting in Cleveland as "Sanitation Week," three recent films on sanitation are being shown continuously every day from 11 a.m. to 4:00 p.m. in the "Little Theatre" of the Municipal Auditorium. This is the only part of the convention and exposition open to the public. The three films are "Habits and Characteristics of the Norway Rat", a new film produced by the U. S. Army; "A Dishwasher Named Red" and "The Housefly".

In charge of the "Sanitation Week in Cleveland" committee are Malcolm Zucker of State Chemical Co., Cleveland and James A. Nelson of Pest Control magazine.

Because of scarcities of some chemical supplies, and cleaning and maintenance equipment requiring metals that are in short supply, unusual attention will be focused on this year's exhibits. There will be considerable interest in new items, particularly those based on recent chemical and mechanical developments, especially

those using less expensive, more easily available raw materials.

The discussion phase of the convention program will concentrate on attempting to answer questions relating to price ceilings and material controls. In addition there will be presented the address of the NSSA president, Al Candy, Jr., of Candy & Co., Chicago; and reports of the treasurer, Walter O. Krebs, American Standard Manufacturing Co., Chicago; Leo J. Kelly, executive vice-president; the secretary of the board, Lacy E. Crain of Conco Chemical Co., Dallas, and regional vice-presidents, Jacob Kahn, Windsor Wax Co., Hoboken, N. J., eastern regional vice-president; Leo B. Mooberry, Best Maintenance Supply Co., Los Angeles, western regional vice-president; James H. Wheeler, Sr., Essential Chemicals Co., Milwaukee, central regional vice-president; John Walsh, Tesco Chemicals, Inc., Atlanta, southern regional vice-president; and S. P. Solomonson, Jr., Dixie Disinfecting Co., Dallas, southwestern vice-president.

New officers and directors for the coming year will be elected at the meeting.

Although most of the activities in connection with the convention and merchandise show will be held at the Auditorium, the Hollenden Hotel on Superior Ave. and Sixth St., about two blocks from the Auditorium is to be convention headquarters. The only function not staged at the Auditorium will be the banquet on Tuesday evening, June 5, which will be held at the Carter Hotel, Bolivar Road, just in from Ninth St. The exhibits will be set up on the Arena floor and the luncheon, discussion and business sessions following them will be held in the Auditorium's dining hall.

### Ceilings on Soapstocks

Ceilings on raw and acidulated soap stocks derived from domestic vegetable oils were established recently by the Office of Price Stabilization.

The ceilings apply to by-products from refining cottonseed, soya, corn, peanut and other domestic vegetable oils and mixtures thereof.

Domestic vegetable oil soapstock, on a basis of 50 per cent total fatty acid . . . New York, 6.125 cents per pound; Chicago, Cincinnati, Los Angeles, San Francisco, six cents per pound. Domestic vegetable oil acidulated soapstock, on a basis of 95 per cent total fatty acid . . . New York, 12.625 cents per pound; Chicago, Cincinnati, Los Angeles, San Francisco, 12.5 cents.

The OPS announced that ceilings on vegetable fatty acids would be established, in the near future, consistent with soapstock ceilings.

### Coming PCO Meetings

The annual meeting of the Florida Pest Control Association will be held at Fort Lauderdale, June 4 and 5. PCO associations which met recently are the Illinois Pest Control Association, May 2, at the Chicago Engineers Club. The New England Pest Control Association met April 26 at the Hotel Lenox, Boston. Plans for the next annual convention of the National Pest Control Association, to be held in Boston, Oct. 29-31, were discussed at the meeting.

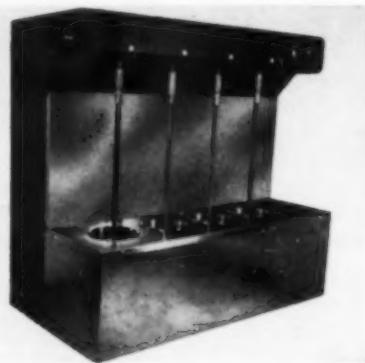
### Asphalt Tile Specs.

Asphalt Tile Institute, New York, has announced that two new specifications covering cut back and emulsion adhesives have just been released by the Technical Research Committee. President J. O. Heppes made the announcement at the annual meeting of the Asphalt Tile Institute, which was recently held at the Barclay Hotel in New York.

### W. H. White Dies

William H. White, 58, well known entomologist with the U. S. Department of Agriculture, died recently of a heart attack. He had served with the Department for 37 years. He had been chief of the Bureau of Entomology and Plant Quarantine Division of Truck Crops and Garden Insects Investigation since 1932.

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## **U.S.I. Merger Is Set**

An agreement providing for the merger of U. S. Industrial Chemicals into National Distillers Products Corp., both New York, has been entered into, it was announced at board meetings April 5. The agreement is subject to the approval of stockholders of the two corporations, and will be proposed at meetings to be held early in June. The merger of U. S. I. into National Distillers would be on the basis of two shares of National Distillers' common stock for each one of U. S. I.

### **Thomas Monsanto President**

Charles Allen Thomas, executive vice-president since May 27, 1947, was elected president of Monsanto Chemical Co., St. Louis, April 24. He succeeds William McNear Rand, president since Oct. 1, 1945, who retired May 1. Dr. Thomas is 51 years old and is a graduate of Transylvania College and Massachusetts Institute of Technology. He came to Monsanto through the acquisition in 1936 of Thomas & Hochwalt Laboratories of Dayton, O., which specialized in industrial research. Dr. Thomas became central research director of Monsanto, and was named a director in 1942. He is one of five co-authors of "A Report on the International Control of Atomic Energy," and is a past president of the American Chemical Society.

### **Talks on Pest Control**

C. R. Cleveland, chief entomologist of the Standard Oil Co. of Indiana, Chicago, lectured on "Pest Control" at Chicago's Museum of Science and Industry, April 22. The affair was one of a series of free popular lectures on developments in research and industrial applications, sponsored by the Chicago Technical Societies Council.

### **Diversey Advances Conrad**

H. B. Conrad, formerly assistant to the manager of the southwestern division in Kansas City of Diversey Corp., Chicago, was recently named manager. He joined the firm in 1942 as a representative in the farm quality

control department, later was advanced from territory man to senior salesman and finally district manager



H. B. CONRAD

in the southern division. A year ago he was advanced to the post of assistant to the manager of the southwestern division.

### **Ellis Joins CSC**

Sidney T. Ellis, formerly an officer of W. R. Grace and Co., New York, in charge of engineering and technical activities, was recently appointed assistant to the president of Commercial Solvents Corp., New York, it was announced by J. Albert Woods, president.

### **Article on Lacy Crain**

Lacy E. Crain of Conco Chemical Co., Dallas, Tex., and secretary of the Board of the National Sanitary Supply Association, was the subject of a recent feature article in the *Dallas Morning News*. The article, "One GI Turns War into Opportunity," tells how Mr. Crain, a one-time salesman for a St. Louis sanitary supply house, financed his own sanitary supply business on his earnings from an enterprise he established while serving as a draftee with the Army in the Pacific during World War II. From Nov. 23, 1945, when he was discharged from the Army, and began Conco Chemical Co. in a \$4 a month private garage in Dallas, Mr. Crain has built his business to an enterprise that did a gross business of \$250,000 in 1950 and employs 15 full-time salesmen covering the Southwest, Missouri and Kansas.

### **Slime Reducer Announced**

Monsanto Chemical Co., St. Louis, announced recently a new product to control the formation of slime in industrial cooling waters. The new product, available in experimental quantities, is known as "Santophen 45," a technical grade of sodium trichlorophenate. The company reports the product to be highly effective against bacteria and algae, common slime forming organisms.

The trichlorophenols liberated by "Santophen 45" are soluble in acid waters and capable of maintaining the necessary activity against slime producing organisms.

### **"First" Sold Nationally**

The national distribution of its new combination floor cleaner-bactericide, "First," which has been test marketed in a few areas during the past year, is now in progress, according to a recent announcement by Piatt & Smillie Chemicals, Inc., St. Louis. The new product is an anti-septic liquid detergent that is claimed to clean, deodorize and sanitize in one operation. It contains the germicide "Santophen 1" (ortho-benzyl-para-chloro-phenol), made under that trade name by Monsanto Chemical Co., St. Louis. "First" is said to perform best in a floor temperature range of between 60 to 80 degrees F. The product is being distributed through sanitary supply dealers and jobbers, and is being promoted by eight page inserts in a number of trade magazines. A "First" test kit is available free from the company.

The removal of its general offices to larger quarters and a major expansion of its advertising department were announced late in April by the firm. Piatt & Smillie's new general offices are now located at 2322 Olive St., St. Louis 3. The enlarged advertising department now occupies all space formerly required for general offices at 2329 Pine St. According to W. B. Smillie, president, the company is now releasing over 100,000 pieces of mail per month to the institutional market alone as part of a national advertising program to create sales leads for its distributors.

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**REPRINTS OF SYNTHETIC DETERGENTS—UP TO DATE**  
 BY JOHN W. McCUTCHEON (36 PAGES)

Reprints of the above article as it appeared in recent issues of *Soap & Sanitary Chemicals* are available from the author as a 36-page leatherette-covered booklet. The article consists of a review of the history, type and production of synthetics, their outlook and a list of over 700 trade name synthetic detergent and surface active products listed in alphabetical order. Each product is identified by manufacturer, class and formula, main uses, form, percent concentration, type and special explanatory remarks.

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## Sanitary Supplies at Hotel Show

NEARLY manufacturers of soaps, chemical specialties, floor maintenance machines and supplies exhibited their products at the Midwest Hotel Show in Chicago, March 27 to 29. Armour & Co. featured a one-ounce carton of "Chiffon" soap flakes which many hotel operators now provide as a free service to guests. The miniature container, resembling in every way the standard size carton for home use, has been on the market about a year, according to S. M. Kurrie, regional sales supervisor for Armour's soap division, who had charge of the booth. Guest size cakes of Armour's "Dial" deodorant bath and toilet soap were prominent in the exhibit which also included other brands of individual guest soaps, industrial soaps for hotel use, chip and powder soaps for the laundry and liquid and oil soaps for general cleaning.

Colgate - Palmolive - Peet Co., Jersey City, N. J., showed their new "Ben Hur" all purpose synthetic detergent cleaning compound, which was placed on the market in mid-1950, and also "Ajax" scouring cleanser, which was offered in bulk for hotel use. Samples of both products were distributed, along with samples of "Palmolive" and "Cashmere Bouquet" guest size toilet soaps. Bulk soaps for laundry use were also shown. In charge was W. E. Humphreys, Chicago divisional manager for the industrial sales department.

Lever Bros. Co., New York, concentrated their promotion on personal guest size soaps in vari-colored wrappers designed to the individual hotel's order. In charge was T. D. Stedman, central midwest regional manager.

Procter & Gamble Distributing Co., Ivorydale, O., featured their "Ivory-Camay" combinations in both bath and toilet sizes and with brightly colored wrappers individually designed. Both design and art work are provided at no charge to customers, according to G. U. Sullivan, Chicago field manager of the institutional soap sales dept.

Mortemoth Chemical Laboratories, Milwaukee, had a display of their

"Mortemoth" liquid moth spray and moth crystals, with Louis Berkoff, one



Horace F. McIntyre, above, a member of the organization since 1943, was appointed recently as head of the newly formed sales department of Pennsylvania Salt Manufacturing Co., Philadelphia, to serve industry and business in maintenance work. The new department, designated the Maintenance Chemicals Department will handle all sales and service work on Pennsalt products for maintenance, as differentiated from products used in manufacturing processes.

of the partners, in charge. The company caters to furriers, dry cleaners, laundries and hotels, but this was their first appearance at the Midwest Hotel show, Mr. Berkoff said.

Advance Colors, Inc., St. Petersburg, Fla., showed their "Roloc" dye foam and on-location dye and cleaner for rugs and carpeting. Staffing the booth were J. Stanley Johansen, Wm. M. Dewey, Jr., and Miss Marjorie Adams.

Hild Floor Machine Co., Chicago, introduced a new electrically operated light weight upholstery shampoo machine which was placed on the market in April. Carpet shampoo machines and floor and carpet maintenance equipment were displayed and demonstrated, along with a new carpet beater, intended for commercial rug cleaners. Frederick C. Hild, company head, had charge, assisted by Walter Harper and James Connell, Chicago area representatives.

System Products Co., Chicago, presented their "Kleen-Rite" line of

carpet and floor cleaning machines and carpet shampoos, with B. J. Bernstein, company head, in charge.

Finnell System Inc., Elkhart, Ind., showed their new "Safety Base" floor conditioner, an anti-slip proofing material. This product, about six months old, is applied to floors before waxing, but is neither a seal nor a wax, explained J. E. Bates, assistant to the president, who was in charge. Floor and carpet maintenance machines, including a new mop truck, were exhibited, along with waxes, shampoos and floor seals. The company, which claims to be the original manufacturers of floor maintenance machines, is 48 years old, Mr. Bates said, and has already started planning for observance of its Golden Anniversary in 1953.

### Innis, Speiden Men Retire

C. C. Wickstead, treasurer, and T. G. Flavelle, assistant secretary of Innis, Speiden & Co., New York, were presented with gold watches recently upon the occasion of their retirement from the firm. W. H. Sheffield, Jr., president of the firm, made the presentation. Both men continue as members of the board of directors and serve in advisory capacities. Mr. Wickstead has been with Innis, Speiden since 1906, and Mr. Flavelle joined the firm in 1909.

### Charlton Joins Ramelli

George W. Charlton recently joined Rudolph Ramelli, Inc., New Orleans, supplier of detergents and cleaning aids. Mr. Charlton, who has been calling on the trade for 17 years in New Orleans, will cover industrial and institutional users of cleaning materials.

### New Non-Melting Waxes

Flexrock Co., Philadelphia, announced recently the development of a series of new non-melting waxes. According to the company, these waxes will not melt even if heated to the combustion point. Slightly harder than unprocessed waxes that do not have this property, the new waxes have a higher softening point, but they never reach the melting point.

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### Warfarin Rodenticide Tests

"Kill - O - Matic" rodenticide, containing warfarin, made by Science Industries, St. Louis, in over 5,000 tests in all states of the U. S., and in Hawaii and Canada, has shown 85 to 90 per cent satisfactory results, according to a recent announcement of the company. "Kill-O-Matic" rodenticide is available in one, five, 25, 50 and 100 pound packages, in which bait cups are included.

### CD&CA Hears Talk on Art

Philip R. Adams, director of the Cincinnati Art Museum, the Art Academy of Cincinnati and the Taft Museum was the guest speaker at the May 11 dinner meeting of the Cincinnati Drug and Chemical Association, held at the University Club, Cincinnati. The subject of his talk was: "A Basic Necessity".

### Diversey Increases Profit

An increase in its net profit for 1950, as against 1949, was reported recently by Diversey Corp., Chicago. Last year the firm had a net profit of \$461,757, equal to \$2.09 a share on net sales of \$8,575,913, as compared with the 1949 profit of \$329,993, or \$1.50 a share on sales of \$8,104,970. Share earnings are based on 220,000 shares of common stock outstanding Dec. 31, 1950.

### Baker Assigns Parizeau

Douglas G. Parizeau has recently been appointed a sales representative to cover Minnesota, Wisconsin, Illinois and Indiana for Baker Castor Oil Co., New York. He is working out of the firm's Chicago office. He joined the firm last year, having previously been with Southern Cotton Oil Co. and Sterling Drug Co. as a chemist.

### MMR Sales Staff Changes

The addition of three new sales representatives and the reassignment of two other members of the sales staff were announced recently by Magnus, Mabee & Reynard, Inc., New York. Melvin R. Ander, formerly with Pet Milk Co., and Jack R. Kaestner, previously vice-president of Acme Chemi-

cal Co., have been assigned to the mid-west area sales office, with headquarters in Chicago. James J. McDowell has joined the metropolitan New York sales force.

Assigned to new territories are Zane McCarthy and Walter P. Spry. Mr. McCarthy, formerly connected with the Chicago office, has been transferred to the southwestern sales unit, while Mr. Spry, with headquarters in Rochester, will cover the northern parts of New York state and northwestern Pennsylvania.

### COMING MEETINGS

**National Restaurant Assn. (convention and exposition) Navy Pier, Chicago, May 7-11.**

**Toilet Goods Association (annual meeting), Hotel Waldorf-Astoria, New York, May 15-17.**

**Society of Cosmetic Chemists, Hotel Biltmore, New York, May 18.**

**Catholic Hospital Assn., Philadelphia, June 2.**

**National Sanitary Supply Assn. (annual meeting and trade show) Municipal Auditorium, Cleveland, June 3-4-5-6.**

**Manufacturing Chemists' Assn. (joint spring outing with Synthetic Organic Chemical Manufacturers Assn., Greenbrier Hotel, White Sulphur Springs, W. Va., June 14-16.**

**Synthetic Organic Chemical Manufacturers Assn., (joint spring outing with MCA), Greenbrier Hotel, White Sulphur Springs, W. Va., June 14-16.**

**Middle Atlantic Hotel Exposition, Auditorium, Atlantic City, N. J., Sept. 5-7.**

**American Hospital Assn., St. Louis, Sept. 17-20.**

**Drug, Chemical & Allied Trades Section, New York Board of Trade (annual meeting) Shawnee-on-Delaware, Pa., Sept. 20-22.**

**American Association of Textile Chemists and Colorists (annual meeting) Hotel Statler, New York, Oct. 17-19.**

**American Institute of Laundering, Hotel Stevens, Chicago, Oct. 19-20-21.**

**Packaging Institute (annual forum) Hotel Commodore, New York, Oct. 22-24.**

**National Pest Control Assn. (annual convention) Hotel Statler, Boston, Oct. 29-30-31.**

**American Public Health Assn. (79th Annual Meeting), San Francisco, Oct. 29-Nov. 2.**

**National Hotel Show, Grand Central Palace, New York, Nov. 5-9.**

**Chemical Specialties Manufacturers Assn. (annual meeting, Mayflower Hotel, Washington, D. C., Dec. 3 and 4.**

**National Institute of Rug Cleaners, Hotel Statler, Boston, Jan. 19-20-21, 1952.**

**AASGP (annual meeting) Waldorf Astoria Hotel, New York, Jan. 22-23, 1952.**

### Carlson in Dearborn Post

Dearborn Chemical Co., Chicago, has named E. S. Carlson as assistant advertising manager, and added Harold Miessner to its advertising staff.

### Discusses Oil Refining

A report on "Some Aspects of the Chemistry of Refining Fatty Oils" by Dr. M. Mattikow of Refining, Uninc., New York, highlighted the April 3rd dinner meeting of the Northeast Oil Chemists', held at the Building Trades Employers' Club, New York. In his talk, Dr. Mattikow pointed out that crude glyceride oils are primarily mixtures of the triglycerides plus 5 to two per cent of minor constituents such as the phosphatides and unsaponifiables. The latter are composed of sterols, sterol glycerides and hydrocarbons. The selective solvent action of liquid propane is used to remove the minor constituents from the crude. Solubility in liquid propane increases in the critical temperature region.

The speaker also discussed the methods for determining maximum yield of refined crude oil, the analysis of the unsaponifiables of crude oil, and the chromatic method of estimating the triglycerides of the crude glyceride oils. The soda ash process of refining oil and the Clayton process of refining soda ash were also mentioned.

The next meeting of the organization will take place on June 5th, and will feature the election of officers for the coming year. S. S. Gutin of Falk & Co., Edgewater, N. J. will give a report on drying oils. The slate of officers chosen by the nominating committee and announced at the April 3 meeting includes: president, W. A. Peterson, Colgate-Palmolive-Peet Co., Jersey City, N. J.; vice-president, Henry W. Ladyn, Armour & Co., New York; secretary, Evan A. Sigworth, West Virginia Pulp & Paper Co., New York; treasurer, Robert C. Hussong, Spencer Kellogg & Sons, Inc., Edgewater, N. J. Nominated for the council are Frank G. Shea of C. F. Simonen's Son, Inc., Philadelphia, and George O'Hare of Congoleum-Nairn, Inc., Newark, N. J.



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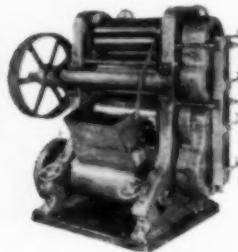
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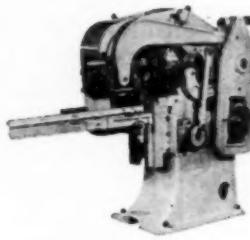
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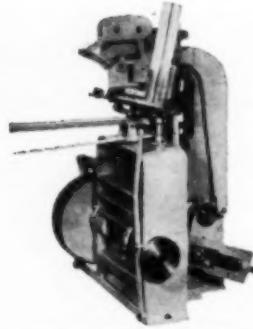
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### "Reducers" to Airkem Line

A new line of industrial odor counteractants called "Reducers" has been added to the products of Airkem, Inc., New York, according to an announcement by W. H. Wheeler, Airkem president, and Sam Tour, president of the 44 Trinity Place Corp., New York, where the "Reducers" formulations were originated.

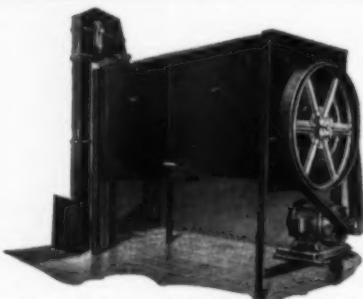
The new Airkem line consists of more than 40 new reductor formulations for use against a like number of offensive smells, including putrefaction, odors caused by manufacturing processes such as products and by-products stemming from the use of oils and fats in rendering and dehydrating, offensive smells carried by paper or printing ink, etc.

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Standard Knapp No. 429 Carton Sealer; Ceco Carton Sealer.  
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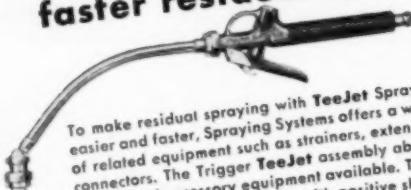
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## Perfume Album

by Jill Jesse

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# TALE ENDS

**S**IGNS of the times . . . bulging inventories of many things are becoming embarrassing . . . in two warehouses in N. Y., floors recently collapsed due to overloading . . . two big soapers already are putting on sampling campaigns running to several million packages each . . . salesmen are reported coming out of hibernation and even looking for orders . . . things seem to be leveling out, gentle reader, or at least it sure looks that way!

Did you spot the error in the editorial on detergents in our April issue? Ye ed said the detergent market would be one-and-a-half billion dollars in a few years. It should have stated pounds, not dollars. Actually, 1½ billion bucks would be equal to about 5,000,000,000 lbs of detergent,—and after all, that is a lot of detergent. So sorry!

*The Brecks of Springfield, Mass., the shampoo people, have opened a fancy-dan beauty salon on 57th St., just off 5th Ave., N. Y. This is a sign of the times which today is interpreted to mean that a firm really has arrived, that it is irrevocably a part of the big-time upper crust. For over 43 years, the Brecks have operated a beauty emporium in Springfield. But, 5th Ave., N. Y., is still Fifth Ave.*

Institute of Textile Technology at Charlottesville, Va., has announced that a small amount of CMC, which being translated becomes carboxymethylcellulose, when added to laundry rinse waters makes clothes more difficult to soil. The laundry trade, so it says, "has shown a keen interest in the product." Interest? So clean clothes will stay clean longer, and lose customers for them? Remember what happened to the patents for no-run silk stockings!

*Soap selling premiums celebrate their 100th anniversary this year. Back in 1851, B. T. Babbitt is reputed to have used the first premiums to push the sale of soap—in those days, it was yellow laundry soap. Lithographed prints of various scenes and persons were the original premiums. And since that time, premiums have had a great rise and decline in the soap business.*

If you send your suit to the dry cleaner and it comes back about the correct size to fit little Horace, don't blame it on the cleaner. It may be the detergent or it may be the soap, or it may be that you wore the suit out in the rain and it was going to shrink anyway, or it just may be the suit itself,—no good. At least, that's what the dry cleaners of Rhode Island are saying in fighting back against newspaper complaint that suits sent to the cleaners are coming back half-size too often and

what are you going to do about it. Frankly, we have felt for a long time that dry cleaners take many a rap they don't deserve. More power to their battle for scientific justice!

*Association of American Soap & Glycerine Producers has outgrown its old boots. Because of the great increase in attendance at recent annual meetings of the soap industry, AASGP will move 1952 and 1953 meetings to the Waldorf-Astoria in N. Y. When the 1951 meeting brought a bulging in the sides of the grand old Hotel Plaza, the move to larger quarters became inevitable.*

Hot comment of a floor wax manufacturer recently in Washington discussing the high price of carnauba wax: "Where carnauba is concerned, maybe Brazil has killed the goose which laid the golden eggs. But, the American wax

importers have roasted the goose and are now in the process of carving it up."

"Old-fashioned soap and water is still the best preventive for skin disease, especially in children." This is according to Dr. Francis W. Lynch, professor of dermatology at the University of Minnesota in addressing a clinical conference of the Chicago Medical Society recently. "None of the antiseptics or wonder drugs are a substitute for the Saturday night bath," said Dr. Lynch. Hot dog! Imagine if the soapers turned the dream-boys of their advertising agencies loose on this one!

Sales hint on mosquito repellents! According to Dr. A. W. A. Brown of the U. of Western Ontario in a report to the American Mosquito Control Assn., the insect's favorite target is a plump person dressed in black who has just finished a brisk walk in the sunshine. We suggest that manufacturers of repellents notify druggists selling their products to keep a sharp lookout for persons of this description as likely sales prospects.

## Winner!



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